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Proceedings



OUTLOOK '88

64th Agricultural Outlook Conference
U.S. Department of Agriculture
Washington, D.C. Dec. 1-3, 1987

ANNUAL AGRICULTURAL OUTLOOK CONFERENCE

United States Department of Agriculture
Washington, D.C.



PREFACE

These pages contain the proceedings of the U.S. Department of Agriculture's 64th annual agricultural outlook conference. Included are all papers submitted by those participating in the program and transcriptions of several speeches and panel discussions.

Outlook '88 took place at USDA headquarters in Washington, D.C. on December 1-3, 1987, with about 1,200 people in attendance. More than 70 speakers and panelists took part in 30 sessions. Speakers from agribusiness, agricultural organizations, and foreign governments were well represented.

In addition to the traditional coverage of the outlook for the farm economy and major commodities, rural Americans, and food and nutrition, distinguished speakers discussed prospects for international trade negotiations, export promotion, and current directions in farm and trade policy.

Once again, a separate publication presenting charts used by speakers at the conference, Outlook '88 Charts, has been published. For the first time, audio cassette tapes of all conference sessions are available. See page 535 and following pages for information about the tapes, the chartbook, and other publications of interest.

Recipients of this proceedings will receive preliminary information on next year's conference, Outlook '89, which is scheduled for November 29-December 1, 1988.

For further information, contact Raymond Bridge at (202) 447-5447.

JAMES R. DONALD
Chairperson,
Outlook Conference Steering Committee

World Agricultural Outlook Board
Room 5143 South Building, USDA
Washington, D.C. 20250-3800

February 1988

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PROGRAM AT A GLANCE

TUESDAY, DECEMBER 2

Jefferson Auditorium South Building

	PLENARY
10:30	Opening
10:35	1 Keynote Address Economic, Agricultural Outlook
12:30	Lunch
	2 International Trade Challenges (1:30-4:00)
1:30	Trade Outlook, International Perspective
2:45	Farmer, Agribusiness and Private Sector Perspectives
4:10	3 International Trade Challenges and U.S. Agriculture (Panel; panelists from session 2)
5:00	Adjourn
5:15	Reception, Administration Building Ratio

Jefferson Auditorium, South Building

Patio, Administration Building

Room 107, Administration Building

Room 3501, South Building

WEDNESDAY, DECEMBER 2

8:30	4 Feed Grains	10 Cotton	16 Fruit/Vegetables	22 Forest Products
9:45	5 Food Grains	11 Sweeteners	17 Fruit/Veg. Followup	23 Cotton Followup
11:00	6 Generic Certificates	12 Nutrition (ends 12:30)	18 Sweeteners Followup	24 Tobacco
12:15	Lunch			
1:15	7 Livestock	13 Grain Followup	19 Conservation	25 Family Economics
2:30	8 Meat and Poultry Trade	14 Oilseeds	20 Transportation	Family Economics (Cont.)
3:45	9 Dairy	15 Oilseeds Followup	21 Rural Development	26 Food Prices/Marketing
5:00	Adjourn			

THURSDAY, DECEMBER 3

Jefferson Auditorium

Patio

8:30	27 Meeting the Challenge: Adapting to World Markets	30 Farm Finance and Credit (8:30-9:35)
9:35	28 Meeting the Challenge: Farm Export Strategies	30 Farm Finance and Credit (Cont'd.) (9:45-10:30)
10:45	29 Meeting the Challenge: Distinguished Panel on Trade and Policy Directions	
12:00	Adjourn	

ANNUAL AGRICULTURAL OUTLOOK CONFERENCE

United States Department of Agriculture
Washington, D.C.



Outlook '88, Session #1

For Release: Tuesday, December 1, 1987

KEYNOTE ADDRESS

Richard E. Lyng
Secretary of Agriculture

Welcome to the 64th Annual Agricultural Outlook conference of the U.S. Department of Agriculture. Imagine! We've been doing this for 64 years! Peering into the future, trying to see what is ahead. As we look back at the accuracy of previous outlook conferences, it is hard not to have a feeling of uncertainty, of humility, of self doubt. But I urge all participants to set that timid, if proper attitude aside and use as our slogan for this conference the old saying, "I may be wrong, but I am never in doubt."

I have had the opportunity to participate in past conferences as an Assistant Secretary, Deputy Secretary and as a representative of the meat industry. I have always found them to be interesting. Sometimes they have been informative. They indeed provide the opportunity for all facets of agriculture to interact and participate in the debate of the important issues affecting them.

As with previous conferences, sessions will highlight the outlook for agricultural commodities, rural development, farm credit, nutrition awareness, consumer spending and an assessment of our conservation efforts, among others.

The major focus of the 1988 Outlook Conference will revolve around the challenges of international trade. It is a particularly appropriate theme. U.S. agricultural exports, after reaching record levels in 1981, fell off rapidly due to a worldwide recession, a sharp rise in the value of the dollar, increased trade barriers and subsidization practices by Japan and the European Community, and counterproductive U.S. agricultural policies. After 4 years of

decline, U.S. agricultural exports are now again recovering. Next year, formal negotiations will begin on a new trade round under the General Agreement of Tariffs and Trade.

I would like to focus my remarks around two major issues. First, I will address the administration's efforts to reform agricultural trade under the GATT. Second, I will discuss my views on current U.S. agricultural policy -- how the 1985 Farm Bill has worked and what modifications, if any, should be made.

Uruguay Round of Multilateral Negotiations

While U.S. agricultural exports have experienced a recovery, there are major obstacles for long-range growth. The problems and disarray facing the world today in agricultural production and trade are largely the result of government policies that interfere with the economic process. These policies have too often provided incentives for uneconomic production and have curtailed demand and consumer choice.

The Uruguay Round of Multilateral trade negotiations offers a historic opportunity to achieve fundamental reforms that will bring about balanced growth and improved agricultural performance.

Five months ago in Geneva, the United States submitted a proposal to reform the international rules governing agricultural trade. Our proposal embraces the consensus reached a year ago at Punta del Este -- at the ministerial meeting of the Organization for Economic Cooperation and Development last May -- and at the Venice Summit in June.

Very simply, the United States is proposing the elimination of all direct and indirect subsidies that distort production and trade and the elimination of all import barriers.

We also proposed a multilateral approach to the development and application of health and sanitary regulations -- to assure these are harmonized, based on scientifically verifiable needs. They must not be used as trade restrictions.

We have suggested a 10-year timetable for achieving these goals -- but it may take 8 years, 12 years or some other number. The length of time is negotiable. It is not our intent that anyone suddenly be forced off the farm. Indeed, the reality of the situation is that the United States will need time, too, to make the necessary adjustments in its agriculture.

In addition, our intent is not to gain special advantage. Rather, it is to join in the design of new rules governing agricultural trade -- rules that are flexible enough to accommodate technological change ... open enough to encourage growth in all markets ... and equitable to producers, consumers and taxpayers.

Can Farmers Survive without Subsidies?

Our proposal has spawned numerous questions, many of which will most likely be discussed during this conference. The first and foremost question has been: What will happen to farmers without government subsidies?

Without question, the proposal will necessitate adjustment in every nation's agriculture.

- * But we will gain by eliminating the structure of artificial incentives that have generated chronic surpluses, year-in and year-out.
- * We will gain by eliminating those ill-conceived policies -- such as those for sugar -- which have created incentives for lower cost substitutes and stifled economic growth in developing countries.
- * We will gain the economies resulting from improved use of resources.
- * We will gain freedom for farmers to decide for themselves what to produce without having to depend on the vagaries of government policy.
- * We will relieve taxpayers of the financial burden of expensive government subsidies.

We believe these gains will far outweigh the losses ... for the world as a whole, as well as for individual countries.

This doesn't mean we advocate pulling the rug out from under farmers, ours or anyone else's. Certainly, some producers will need help in making the shift to a market-oriented global agriculture. We believe the best way to provide that help is through an adequate transition period and possibly direct income supports for those farmers who need it. Such direct supports would be far less disruptive on the world marketplace.

Food Security -- What Guarantees?

Another major concern about the U.S. proposal involves food security. While this is understandable, let us not make the mistake of equating food security with self-sufficiency.

In today's global agriculture, food security is the ability to obtain the food you need, when you need it. This does not mean every nation needs to grow all its food supply. In the modern world, trade in food will bring improved living standards for everyone.

But it does mean we need a rational, global agricultural policy -- one that encourages nations to channel their resources into the most productive endeavors ... and does not discourage poorer countries from growing their own food in competition with the subsidies of wealthier countries.

True food security in today's world lies in vigorous competition in the international marketplace. In that way, consumers everywhere can be assured of having the widest possible supply of foods at the lowest possible prices, when they want it.

Impact on the Third World

As we look at the impact of the U.S. proposal on the Third World, we must remember that 80 percent of the world's people live in developing nations.

If we in GATT adopt trade policies which allow these developing economies to grow and expand, we will stimulate tremendous demand for all kinds of farm products in the years ahead.

Initially, these countries may concentrate on purchasing bulk commodities, such as grains and oilseeds. But experience has shown that as incomes rise, so too does demand for a wider variety of higher quality foods.

History tells us that if third world countries are helped to develop economically, their capacity and willingness to import farm products will grow in response to consumer demand for more and different foods. Here's the key fact: Total food consumption will grow and grow and grow!

Any farmer worried about whether there really is enough demand to support a market-oriented world agriculture need only look at the potential of the Third World! It is enormous!

But to translate that potential into reality, these countries:

- o must be given the opportunity to export their products to the developed nations,
- o must be allowed to earn the money they need to pay their debts, and
- o must be able to achieve a reasonable level of prosperity.

It is our firm belief that the U.S. proposal will provide major benefits for developing countries by removing the obstacles to sustained economic growth in agriculture. However, those benefits can be realized only if all countries, including the LDCs, are willing to join the process.

The 1985 Farm Bill

The 1985 Farm Bill made a fundamental departure in U.S. agricultural policy by allowing price supports for program crops to be adjusted towards market-clearing levels. This shift was a recognition of the need to regain agricultural exports through increased competitiveness.

Target prices and deficiency payments were continued to provide direct income support to producers. Acreage reduction programs remained in place to control production. A new long-term conservation reserve was established to remove 45 million acres of highly erodible land from production by 1990. Export enhancement programs were implemented to help regain markets for agricultural commodities including high value products that were lost to subsidized competition.

Many were critical of the Farm Bill when it passed. Nonetheless, after being in effect for almost two years, there have been several positive results. U.S. agricultural exports have increased from 110 million metric tons in FY 1986 to 129 million tons in FY 1987 -- an 18 percent increase in volume; 6 percent in value. Later today, others will discuss the prospects for exports in 1988. But I can tell you that expectations are that agricultural exports will continue to increase, further improving our trade balance. Domestic use is up for almost all commodities. This calendar year cash farm income will be record high, reaching the upper end of the \$54-58 billion forecast range. Almost 30 percent of that income has resulted from government payments. Production costs declined \$13 billion during the last two years. Farm debt is being retired. Land prices are stabilizing and even increasing in some areas.

It has been an expensive Farm Bill with outlays totaling almost \$49 billion over the last two fiscal years (FY 1986 and 1987). And while FY 1988 outlays are projected to decline to around \$20 billion, that is well above levels sustained in the past. This is still a mammoth transfer of wealth to the farm sector.

Agriculture will come under continued pressure to reduce the level of outlays to farmers. Under the tentative Budget Summit Agreement reached by the administration and the congress, agricultural outlays must be reduced by \$900 million in FY 1988 and \$1.6 billion in FY 1989.

In my view, the most equitable way to achieve those savings is to make small reductions in target prices for wheat, feedgrains, cotton and rice, expand the current 50/92 provisions to 0/92 and reduce the level of paid land diversion for feedgrains. In addition, some savings could also be achieved by slightly reducing the price support levels for other program crops.

While target prices are scheduled in the 1985 Act to be reduced by 10 percent over 5 years, they will still be too high. They continue to encourage farmers to expand production, necessitating the continued use of acreage reduction programs. In addition, target prices for feedgrains have caused a distortion in the soybean program by making corn production more attractive relative to soybeans. Looking ahead to the longer term, this soybean/corn imbalance may create serious problems.

There are some who will say that farmers will be unwilling to accept any further reduction in target prices. But, when viewed in the context of a 8.5 percent reduction in loans and deficiency payments under a sequestration order, most would find a modest reduction in target prices a more practical alternative.

Whatever we do, we must reinforce the provisions of the Farm Bill which will make us competitive in world markets. We must avoid sending the wrong signal to our competitors, particularly as we begin multilateral trade negotiations.

Actually the 1985 Farm Bill is working well. The costs need to come down. And we may need to fine tune some specific areas. But in order to remain competitive and make use of our comparative advantage, we need to continue our efforts toward market orientation.

However, at the same time, we must set in motion the process to remove subsidies and import barriers everywhere and develop rules and disciplines that assure a strong world agriculture and a vigorous world trade.

This is a very substantial undertaking. It's never been done before ... because the world has never really faced up to the impact of domestic subsidies and protection on agricultural trade.

Modern technologies are shifting comparative advantages within countries, and between countries, at unbelievable speed. Yet the policy environment in many developed and developing countries has been designed to try to make sure that nothing changes.

We cannot prevent change ... nor should we attempt to prevent change. We cannot force time -- and technology -- to stand still.

We must use the Uruguay Round to establish a policy climate that allows the market to function -- that permits innovation by farmers, opportunity for exporters and security for consumers -- in this century and the next. It's a magnificent challenge.

Let us accept it with vigor and dedication.

Thank you.

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ANNUAL AGRICULTURAL OUTLOOK CONFERENCE

United States Department of Agriculture
Washington, D.C.



Outlook '88, Session #1

Tuesday, December 1, 1987

ECONOMIC OUTLOOK*
Dr. Lawrence Chimerine
Chairman and CEO
The WEFA Group/Wharton Econometrics

Thank you very much, and good morning. This is a treat for me today for a number of reasons: first, to see such a large and enthusiastic group this morning; secondly, because it certainly isn't every day that I follow a Cabinet member to the podium, which makes this an extra special treat. Although I should say before going any further, that in light of some of the Secretary's remarks, which I assume were in jest, I guess I'm pleased to say that this is my first appearance at this conference. I wasn't responsible for some of the forecasts gone astray that apparently have been made at these conferences in the past. Although I'll have my own, I didn't make them at past conferences. In any case, I am pleased to be here.

I have a lot to discuss in a very short time frame, so if you don't mind, I'm going to go right into the subject. Right now, there's obviously a lot of interest in the current state of the economy and where we're heading over the next several years. That's my subject this morning. To do that effectively, though, I think we have to begin before the stock market crash. We first must look at the state of the economy at that time and what it's really been like in recent years. That sets the foundation as we move forward into 1988 and beyond.

And secondly, and perhaps even more importantly, we need to focus on what, in my judgment, are the major underlying forces that determine or have an impact on the economic performance of the United States. Quite frankly, I think they're not well understood. Some of them are rather dramatic, and have already had a very profound effect on the economy. They will do so for many years. They're very different from the typical forces that effect the economy. Most of the time when you hear an economist give the outlook for the next 12 months, he tends to review a batch of cyclical indicators or forces that will determine short-term economic performance.

In my judgment, the U.S. economy is now being determined primarily by very dramatic secular changes which already are, and will continue to impact on the economy's performance on a long-term basis. And as a result, before we talk about the outlook for 1988 and beyond, I think it's necessary to address those forces, and to discuss and review them. So my agenda, very simply, is to first start out reviewing recent performance and where we are now; secondly, to discuss the major factors that will have an impact on the economy as we move forward; what they mean for the economy; and, of course, for general economic conditions, financial markets, exchange rates, and all of that. So that's the agenda, and let me get right to it.

* Based on a transcript.

I think everybody in the room knows by now that we're now celebrating the fifth anniversary of this economic expansion. It began at the end of 1982 when the second of those two back-to-back recessions that we had in the early eighties ended. Five years, as you know, is a relatively long period for an economic expansion. It's something to be very proud of, but I think that if we're honest about it, we have to admit that one statistic by itself probably overstates the health of the economy in recent years.

While the economy has been doing pretty well or okay, and certainly a lot better than during those two recessionary periods in 1980 or 1981, it hasn't been quite as spectacular as the duration or length of this economic recovery by itself would suggest. I think there are three reasons for that. Number one, as many of you know, is that while we've had five years of steady expansion during most of that period, the rate of economic growth has been relatively modest, particularly in the last three and a half years or so, once we passed through the early stages of this recovery.

During the first year and a half of this expansion period, we had booming economic growth. We came out of that second recession very dramatically, very sharply, but since the middle of 1984, the economy has been moving forward at a very, very slow rate. So in terms of magnitude of economic growth, this has not been one of the best economic recoveries in our history.

Second, as many of you also know, it's important to make a distinction between the level of economic conditions and the direction. In particular, I'm referring to the fact that when the last recession ended, the economy was extremely depressed, and probably was operating at its lowest point in the entire post-war period. We had unemployment at about 11 percent at that point, and had just lived through two steep back-to-back recessions. So while growing for five years is something we can be very proud of, one has to look at the level of the economy in order to assess its state.

Because we started from such a depressed level and because the rate of growth during much of this period has been somewhat below average, the level of economic conditions right now, in my judgment, is not all the way back to what can be considered full health and prosperity. We're moving in that direction, we've made a lot of progress, but we still have a ways to go.

The third essential point -- and it's something that many people in this room can identify with -- is that this has been the most uneven period of economic performance that I can recall since I've been in this profession, and probably in this entire century. We have never before had a period where we've had some industries literally booming, while at the same time others were still operating in recession or depression conditions. In fact, until recently, probably up to 20 or 25 percent of the economy had experienced little or no recovery from the low points of 1982, even though the economy in general was recovering. I don't see how anyone can say that we've reached fully healthy conditions or fully prosperous conditions when that large a segment of the economy still is not sharing in the overall recovery process. Essentially what happened is, of course, is that the burden of the shortfall -- between where we'd like the economy to be and where it's been recently -- has not been shared equally across the system.

As far as we can tell, the economic recovery is still very much intact; there was no sign of recession as of a month ago. If anything, overall economic growth was speeding up a little bit this year. A boom wasn't underway, but the economy was perking up a little bit compared to the last several years.

But while the economy was continuing to grow, a major shift in the sectoral mix within the economy was beginning to develop. As many of you know, some of those industries which have been depressed in recent years, particularly parts of manufacturing and even, to some extent, part of the agricultural sector, were beginning to show stronger activity; at the same time, some of the stronger sectors of recent years -- retailing, some of the service industries, many parts of construction, all of which had boomed during the previous three or four years, were now beginning to slow down. So the overall economy was continuing to grow, but a sizable shift was beginning to take place among the various sectors and components of the economy. And I think we'll see why that sectoral mix is changing as we move through our discussion during the next few moments.

That was the world, as I saw it, as of a month or so ago before the stock market crash. That probably still is the world today. I think the first question to answer is, "why hasn't the economy done even better than it has during the past several years? What are the major forces that are limiting economic growth?" And then we'll begin to look at how those forces will affect the economy during the next several years. Included in that assessment is an analysis of what the impact of the stock market crash will be.

In my judgment, the biggest negative for the U.S. economy in recent years -- not only the economy in general, but probably agriculture as well -- has been the enormous increase in the U.S. trade deficit. That has been the biggest limiting factor on economic growth, preventing an even more buoyant economic situation with much stronger growth, and an even more vibrant, more evenly distributed pattern of economic performance. And that pattern, again, has been key. We need to know why we have had such large trade deficits in the United States, and the effect those deficits will have as we move ahead.

In my judgment, as painful as it is to say, the fundamental reason that we have large trade deficits in this country is that we have lost many of the economic or competitive advantages in world markets that this country enjoyed when we look back 15, 20, and 30 years ago. Most of you in this room know that the United States dominated the world economy throughout most of the post-war period; no matter how you measure economic dominance, we had it. We had large trade surpluses year after year after year -- including, of course, agriculture.

We were the world's biggest lender, the biggest creditor. We were investing in other countries. For almost every agricultural product and for almost every manufactured product, the United States had a dominant share of worldwide production. More than 90 percent of all the world's cars were produced in the United States. We dominated worldwide production in manufacturing and agriculture, which is why we had large trade surpluses.

The reason we were so dominant is that we had tremendous advantages over the rest of the world in technology, in productivity, and in product quality. Think back 20

years. Most of the new technology developed in the world at that time was developed in the United States. And we not only developed it, we applied it to the production process to develop new products. As a result of that, and for other reasons, we had incredible productivity advantages over most other countries. Productivity in almost all industries in the United States, including in agriculture, was very high; whereas for most of our foreign competitors 20 years ago, it was relatively low. We excelled in mass production technology, in agricultural technology, and in all the techniques that were necessary for a high level of productivity.

It wasn't all that long ago that the biggest joke in this country was something that was made in Japan. Even in those countries that could produce goods, production not only was at lower efficiency levels, but generally could not match product quality in the United States. Those are the reasons that we dominated the world economy, why we had large trade surpluses.

As painful as it might be to say, the truth of the matter is that those advantages have narrowed tremendously during the last 10 or 15 years. We're not the only ones anymore to develop new technology and apply it. Quite the opposite has occurred: technology is transferred around the world very quickly, almost instantaneously. Almost everyone now has access to the same technology. Partly for that reason, and partly because other countries have adopted our mass production techniques and have developed their agriculture as we've done here, they've lifted their productivity levels dramatically. In some industries, productivity in Japan and some other countries now matches or even exceeds what it is in the United States in those industries. Twenty years ago, they were 30, 40, and 50 percent behind us.

They've done the same thing with product quality. As you know, this is a high priority in most other countries, and they've narrowed the gap tremendously. In some industries, there now is at least the perception that foreigners produce higher-quality products than we do in the United States.

We can go through all the reasons. We can discuss for hours or days whether we got complacent in the country, or whether the rest of the world simply has caught up to us. But I think what we have to admit is that the advantages we used to have, we do not have to the same extent anymore. That has been the fundamental change in relative competitiveness that, in my judgment, is primarily responsible for shifting our big trade surpluses and our large market share of worldwide production into a position of big trade deficits and declining shares of production in most industries on a global basis.

Not only have productivity levels equalized or become more equal, but, as you know, there's another competitiveness problem we have to deal with: labor costs. When we had the advantages in productivity years ago, we used them to increase living standards in this country. We raised wages throughout the manufacturing sector rather sharply, and then that spread to the rest of the economy. We created lots of new high-paying corporate jobs. I suspect many of us in this room are part of that. Why shouldn't we have? We could afford it, when we had the productivity to justify it.

We no longer have the productivity advantages, in many cases, to justify the differences in wages that have developed, which represent the other side of that living standard. When you have double or triple the productivity, you can afford wages that are that high, but when the productivity gap narrows, you can't afford it. And quite honestly, 20 years ago, it didn't matter that wages were \$1.00 an hour in Taiwan, because the Taiwanese didn't even know how to build a factory, let alone produce anything. Now, in many cases, they can produce, or our subsidiaries can produce the same products there that they can here. It does matter that wages are a fraction of what they are in this country.

So I think if we're honest about it, we have to admit there's been a major change in competitiveness. That's why we've had large trade deficits; that has been a big limiting factor on economic growth in this country. I don't see how we can look forward to 1988 and beyond without first addressing the entire issue of competitiveness, trade, exchange rates, and what it means for the future of the economy.

There are a number of people, in particular, who are extremely optimistic about the future of the economy because they argue that the decline in the dollar that has been taking place now for the last two and a half years on foreign exchange markets will now make us more competitive. In fact, we're already beginning to see the signs, both in agriculture and in manufacturing, that a number of industries are benefiting from the weaker dollar. Their competitive position is increased dramatically; their export orders are up.

And they point to this as a sign of faster economic growth. And we're beginning to see a pickup in many manufacturing industries, particularly those that compete primarily against Europe, because wages are still quite high in Europe. And the dollar has come down so much against European currencies that many U.S. companies now have a competitive advantage in world markets when they compete against their European counterparts; and to some extent, the Japanese as well. This is true.

And despite the numbers that are published in the newspapers which show that the trade deficit is still roughly at its all-time high, if you adjust for inflation, it's clear the trade deficit is beginning to come down. Exports are rising; imports are leveling off. And this is a very hopeful sign for the economy, but there's one problem that is frequently overlooked. Pushing the dollar lower and lower is not a cost-free solution to our trade problems. It has negative side effects elsewhere in the economy. It is terrific for export-oriented industries, without a doubt, because they are the principle beneficiaries of the lower dollar, as well as of the other adjustments which are making U.S. companies more competitive.

But look at the other side of the coin: namely, that the weaker dollar, by pushing up the prices of imports and generally adding somewhat to inflation in this country, not only directly adds to inflation, but also squeezes purchasing power. As we've witnessed all during 1987, it also is putting upward pressure on interest rates in this country, for two reasons: one, the added inflation causes long-term interest rates to rise; two, the weaker and weaker dollar is reducing the willingness of foreigners to hold dollar assets.

As all of you know, we're very dependent on an inflow of foreign capital. I'll get back to that subject in a moment. As long as we are, we need that money, particularly as long as we have these large budget deficits. The problem is that foreign investors are losing their shirts in the U.S. market because the decline in the dollar obviously means, just with regard to foreign exchange losses, they have lost sizable sums of money on all their investments in the United States in recent years. As a result, they're becoming reluctant to commit to the U.S. market the new money that has become a major source of capital for the United States. As a result, that, too, puts upward pressure on interest rates.

What is making the U.S. economy more competitive in foreign markets is the wage restraint throughout the economy; namely, the continuing layoffs in large numbers of high-paying jobs, particularly staff jobs in the corporate sector. These clearly reduce costs for U.S. companies, and help them be more competitive. But, again, the other side of that is that those restraints represent a loss of purchasing power for the people who are directly affected.

What is beginning to happen -- and that gets back to the sectoral mix that I talked about earlier -- is that the adjustments are improving our trade deficit eventually in nominal terms and in real terms, but also are beginning to have these negative side effects elsewhere in the economy which are holding down domestic economic activity. The squeeze on purchasing power caused by higher inflation and wage restraint, as all of you know, already is beginning to slow down retail and consumer spending, particularly for high-price-tag items like automobiles. Higher interest rates already are starting to squeeze down construction.

A weaker and weaker dollar and more and more wage restraint, while clearly beneficial for our foreign trade, are now beginning to squeeze down the domestic economy. And what we're getting is not a major acceleration in the economy; we're getting a sectoral mix shift within the context of continued modest or slow overall economic growth. So I think that even without taking into account the stock market crash, it is a mistake to believe that the economy is headed for a boom, or that it was headed for a boom before the stock market crashed. By focusing only on the dollar and the benefits to manufacturing and agriculture, one can easily lose sight of the negative effects that it is already beginning to have elsewhere in the economy.

The loss of our competitive advantages and our leadership in the world economy will be a limiting factor on economic growth for many years. The ramifications are shifting, rather than the overall pattern of economic performance. Now, manufacturing and agriculture will share in the rebound or in the economic expansion, whereas those sectors that had benefited earlier when the dollar was strong, did very well, and carried the economy forward in recent years are now beginning to weaken. Maybe this is poetic justice; maybe this is the way it should be, but it's important not to confuse this with an economic boom. It's important to recognize that many industries will see a mixed pattern in their performance. Those parts of their businesses which are export sensitive will probably do a lot better, particularly, as I said earlier, if they compete against the high-wage countries. Those industries that depend more on the domestic marketplace like the auto industry, retailing, construction and services -- even financial services now -- are likely to see weaker performances than they've had in recent years.

Now let me spend a couple minutes on the stock market, perhaps say a few words about interest rates, and then I'll quit. I guess the key question that still hasn't been addressed is that if I am right in saying that 1988 will be another year without recession or spectacular economic growth -- and another year of 2 1/2 percent growth like we've had during the past three years -- given the shift in the mix that we've talked about, will last month's stock market crash make the near-term outlook even worse? Will the crash turn what might have been another year of slow or modest economic growth into a recession?

The key factor that will determine that is whether the decline in the stock market of the past month will reduce consumer spending dramatically. Consumer spending was already beginning to slow down, as I mentioned earlier. Now the question is whether the jolt of the stock market crash makes the outlook even worse, because people feel poorer. They might feel poorer because those people who own stock obviously have much less wealth and liquidity than they did earlier -- assuming anyone still owns stocks. I can't find anyone who does. Everybody tells me they sold out two weeks before, so I must be the only one still in the market. But those people still in the market obviously took a big hit on their wealth, and to the extent people's current spending patterns are impacted by how wealthy they are, that could be a factor.

The second factor is confidence. Even people who don't own stocks may decide, my gosh, this stock market crash must be telling us something about the future. Maybe I shouldn't feel as secure in my job as I did earlier. Maybe we're headed for a recession. Maybe I ought to start saving more and cutting my spending. Well, if people react that way, it could produce a much slower economic environment, and maybe even a recession. Our own judgment is that the decline in the market so far will have only a limited impact. It will perhaps take a percentage point off economic growth next year, so instead of what might have been 2 1/2 percent, it might be 1 1/2 percent -- not great, but a far cry from an actual serious recession.

The reason we feel that way is all the empirical evidence indicates that the stock market, despite the fact it's on the news every day, historically the stock market has had a very small impact on consumer spending patterns. It is tremendously overshadowed by other factors which influence consumer spending: income, inflation, interest rates, and so forth. So if history holds up, we won't see enough of a decline in confidence, or enough of this wealth effect that I described a moment ago, to depress consumer spending even further. Sure, some of those on Wall Street who are going to lose their jobs are not going to buy a Porsche this year. You will see some weakness in luxury items, and some caution elsewhere: enough, as I said earlier, to take a little bit off economic growth, but not to produce a recession.

But I must tell you, that's what the historical evidence shows. That, by itself, does not take into account the high degree of vulnerability which exists in the economy at the present time. First, as you know, debt loads right now are extremely high throughout the economy; the highest in our history, particularly for consumers. And it is not inconceivable that many families decided to go deeper into debt over the last year or two to finance more new spending on the assumption that, "Well I can afford it because my stocks are going up, and as soon as they peak out I'll sell them and then use the proceeds to pay down the debt."

Well, I don't think people can do that right now. As a result, they may be more cautious than they might have been historically under comparable situations; that is, under previous stock market declines, because of the higher debt load they're now carrying, relative to what they've carried historically. Not only higher debt, but as you know, the savings rate has been at a near-record low in this country for recent years. So it's not inconceivable that consumers will react even more sharply than they might have historically, especially once they get through the Christmas season. This could be their last shot, after which they will really hunker down. We have no evidence to say they will do it, but you certainly can't rule out that possibility.

Second -- and this disturbs me greatly -- is that one of the problems we're encountering in the economy is our policy inflexibility. We have, in my judgment, mismanaged our fiscal affairs terribly in this country in recent years, and these large budget deficits, quite frankly, are unconscionable. We're beginning to pay a price for them. They made our competitive problems in world market worse by pushing up the dollar a few years ago; they're keeping interest rates too high at a time when the economy probably needs lower interest rates; they've increased our dependence on foreign capital tremendously. That has very undesirable effects, as we talked about earlier. We also are now finding ourselves in a position in which we would be able to do very little, in terms of fiscal policy, to reverse a weakening of the economy next year because of the stock market crash or high interest rates or other factors.

If our deficit is already \$200 billion, and if we have a recession next year, would we cut taxes and raise spending to push the deficit to \$300 billion? We no longer have the option of using fiscal policy to prevent or limit recessions in this country. Quite the opposite is the case. For the long-term health of the economy, we have no choice but to implement a relatively restrictive policy over the next several years. We're going to have to cut the budget -- to raise taxes and cut spending -- despite the level of economic conditions, which becomes another short-term depressant on economic activity.

One can make exactly the same argument about interest rates. As many of you know, in the last two or three years, interest rates have been determined more by what the Japanese and the Germans do than by what the Federal Reserve does. The Federal Reserve has essentially become a follower. It is the long-term markets that lead, and to a great extent, that reflects what Germans are doing regarding investment in the U.S. market. As long as the dollar is in a free fall and while at the same time we need foreign money coming into this country, we're limited in what we can do with interest rates. And we don't have the full control over our own financial markets that we did historically.

So when you take into account the high debt load in the economy, which could further weaken domestic demand over and above what I described earlier, and the policy inflexibility, it adds up to an economy that's quite vulnerable. And as a result, we have been regularly urging our clients to plan for 1988 very cautiously, and to assume for the next several years we are likely to continue to be in a fairly slow growth economy. It's important to be very cognizant of the sectoral shift: there are going to be opportunities, particularly in export markets, and

those are the areas to focus on, if you can. Be very careful about certain parts of the domestic marketplace where demand is likely to be quite weak. Most importantly, for those businesses that would be affected if we did have a recession next year, is to have some contingency plan so at least they are prepared and have considered the impact of the recession on the business, and how to react if that situation does develop, because the risk remains relatively high.

Two last points, very quickly, talking about vulnerability. I don't know what's going to happen to the stock market. I don't even know what's happening this morning. But as we saw yesterday, no one can safely or completely rule out the possibility that we're going to get another jolt in the market. And regardless of what the impact has been thus far of the decline in the stock market, I would guess that if we see another 500-point decline over the next few weeks or few minutes, the way the market's been going, that we would all have to agree that the potential negative impact of a second jolt probably would be much greater than whatever impact we're likely to get from the decline so far, especially since the decline that we had in the last month or so, to a great extent, simply reversed the rise in the market earlier this year. Maybe it's a little lower than it was at the start, but if we go a lot lower -- and many people now have large losses -- we could have a much more sizable retrenchment by consumers than I described a moment ago. This again highlights the vulnerability of the economy at the current time.

My last point is positive for agriculture. In my judgment, the dollar is going to go even lower; it is unstoppable. It's going to go lower primarily because foreigners have clearly shown they are not willing to finance our budget deficits anymore and, as a result, they're holding back. That does two things: it pushes the dollar lower, and pushes interest rates higher. We've seen that mix throughout this year. And I think we'll see, over the next 12 months, an even lower dollar, which, again, enhances the prospect for agriculture, particularly in export markets, but also has the negative side effects on the domestic economy that I mentioned earlier. For those of you who serve this marketplace, I think it's important to take this into account.

Thank you very much and good luck.

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WORLD AND U.S. AGRICULTURAL OUTLOOK

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The 1988 agricultural outlook is highlighted by smaller global crop supplies, stronger demand, and higher prices. Adverse weather and reduced acreage have cut production of several crops. Demand for both crop and animal products will benefit from continued economic expansion and population growth. Crop prices will respond to tightening supplies, while expanded animal product supplies will pressure prices.

To U.S. farmers, this outlook will mean higher crop prices and increased marketing receipts from crops, which will offset lower receipts from livestock and poultry. Too, farm income will continue to be supported by government programs, while moderate inflation and a continued relatively low level of planted acreage will dampen the increase in production expenses. Cash farm income in 1988 is expected to remain in the range of \$50-55 billion, compared with the 1987 estimate of a record \$56-58 billion. Net farm income in 1988 will be further supported by an increase in the value of inventories and is expected to come close to this year's record level of \$44-46 billion, perhaps totaling \$40-45 billion.

The 1988 outlook favors the food shopper as well as the farmer. Food supplies, boosted by a record meat and poultry production, should be generous. Large meat supplies, coupled with a moderate increase in inflation, will mean a modest increase of 2 to 4 percent in food prices in 1988. This year's food prices are up about 4 percent from 1986, reflecting higher prices for beef, pork, and fish.

At the global level, supplies of major crops will be smaller in 1987/88. Production is down for some crops because of reduced acreage or adverse weather, while beginning stocks were lower for a few crops.

Global crop consumption and trade should increase modestly in response to an expansion in world economic activity, larger animal product output, population growth, and crop shortfalls in a number of key importing countries.

Global crop stocks will be worked down in 1987/88, with expanded consumption exceeding production. In relation to use, global stocks will decline, with the tightest situation in prospect for rice.

In the United States, yields are up for most crops this season. However, crop output will slip further from last year's reduced level because acreage devoted to conserving uses through the acreage reduction and conservation reserve programs is the second highest ever.

U.S. farm exports will rise as the U.S. share of world trade moves up again, and crop prices will average slightly to substantially higher as stocks are worked down.

Looking beyond 1988, the outlook is for a continued improvement in the global crop supply-demand situation. This will result from improved global demand and dampened production in other countries.

U.S. export markets are expected to expand in response to the growth in global demand and competitive U.S. prices in world markets.

Global Setting

Global crop stocks will be reduced in 1987/88 by both reduced production and expanding use. Crop production will fall because of reduced acreage and adverse weather in some countries. Global crop consumption and trade will respond to expansion in economic activity and crop shortfalls in a few importing countries. In general, higher prices are indicated.

Crop Production

Global crop output is projected to decline about 4 percent in 1987/88, reflecting a sharp drop in U.S. acreage of feed grains and reduced wheat acreage and yields in several countries, including the Soviet Union, Australia, Canada, and China. Production of a few crops, including cotton and soybeans, will be larger in response to expanded acreage or improved yields in the United States and other countries.

Global feed grain production will be down 4 to 5 percent, primarily reflecting 15 percent lower acreage in the United States. World wheat production will be down over 5 percent, as lower prices reduced acreage in Canada and Australia and adverse weather cut the Soviet crop. Rice output also will be down over 5 percent, with drought-reduced yields in India, Thailand, and much of South and Southeast Asia.

World oilseed production is expected to be up 4 percent, primarily in response to bigger U.S. cottonseed output, larger rapeseed production in the European Community and prospective larger soybean crops in South America.

The global cotton crop is up one-tenth in response to expanded acreage in the United States and China and sharply higher U.S. yields.

Demand Factors

Global economic conditions in 1988 likely will about match 1987. Economic growth should benefit from increased net exports by the United States and several developing countries, but growth rates in many countries still will be held down by trade imbalances, budget deficits, high debt loads, and lack of financial growth for capital investment. In addition, economic growth could be

dampened by declines in the stock market and in consumer wealth and spending, although lower interest rates could stimulate spending in areas such as housing and automobiles.

Economic growth in developing countries should show moderate improvement, including several countries in Latin America. The fastest growth again will be in East Asia, where agricultural imports have been rising with expanding consumer demand, especially for meat.

World animal-product output is expected to increase modestly in 1988, with expanded output of poultry and pork offsetting less beef and veal. Poultry meat production is expected to be up about 4 percent, with output expanding in most countries. Pork output may be up 3 percent, with much larger production in China and the United States. This larger meat output should mean an increased level of feed use.

The U.S. dollar has continued to weaken in 1987, declining some 10 percent against major European and Japanese currencies. A lower dollar should result in larger exports, smaller imports, and expanded domestic investment. U.S. exports of soybeans and cotton to Europe and Japan should benefit the most.

Consumption and Trade

Global consumption of wheat, feed grains, and soybeans is expected to be up about 1 percent in 1987/88, while reduced world consumption is indicated for rice, wheat, and cotton.

In 1987/88, global trade will decline for rice and cotton because of slightly smaller world use and reduced supplies and higher prices in exporting countries. Trade in soybeans also will be down as other oilseeds capture part of the growth in protein meal use. A significant increase is projected in world wheat trade, with crop shortfalls and higher imports by the Soviet Union, China, Iran, and Morocco.

In 1987/88, U.S. crop export volume is expected to increase around one-tenth, led by a 30-percent rise for wheat. Soybean exports could slip, with larger production of other oilseeds and expanded soybean output in South America. Plentiful supplies of most commodities, competitive prices, and lower production of grains in some competing countries will mean increased market shares and larger U.S. exports in the coming year.

The total value of U.S. agricultural exports rose over 5 percent in the past year, as much larger volume offset lower prices. U.S. agricultural imports slipped about 2 percent, reflecting a substantial decline in coffee prices.

Crop Stocks and Prices

With smaller world supplies and larger consumption, global grain stocks will decline to about 340 million tons, more than one-tenth below record high beginning stocks. With rice stocks falling most sharply, a significant further drop is expected in world cotton stocks.

U.S. stocks also will be reduced in 1987/88, with prospective inventories of cotton and rice dropping to more manageable levels. Record feed grain stocks and large wheat stocks will be reduced around one-tenth by the end of 1987/88.

U.S. farm prices are responding to expanding use and the outlook for lower stocks. Price gains will range from modest for wheat to substantial recovery in corn prices from the sharply reduced 1986/87 level.

Commodity Outlook

The global crop outlook is for smaller supplies, stronger demand and higher prices. The world livestock and poultry outlook is for a further expansion in supplies and lower prices, particularly for hogs and poultry.

Wheat

The global wheat outlook for 1987/88 is highlighted by reduced production, a continued recovery in world trade, a gain in U.S. market share, and declining world stocks.

The outlook for U.S. wheat in 1987/88 is for about the same level of production as a year earlier, lower carryin stocks, a sizeable increase in exports, and ending stocks possibly slipping to their lowest level since 1981/82. This sharp reduction since 1985/86 of 500 million bushels in stocks overhanging the U.S. and world markets has come through constrained production and expanded use.

Harvested acres, at 56 million in 1987/88, are down 9 million from 1985/86 to their lowest level since 1978. Production has dropped from 2.4 billion bushels in 1985/86 to 2.1 billion. While the reduced production has contributed to the drop in stocks, U.S. wheat stock levels would still be expanding without the turnaround in use. Domestic wheat use last year was almost 150 million bushels above 1985/86, and another small gain is projected this year. Food use gains are often overlooked, but U.S. food use of wheat in 1987/88 is projected to be almost 70 million bushels (10 percent) above 1985/86. The largest gain, however, will come in exports.

World wheat trade in 1985/86 fell to its lowest level since 1978/79, but gained almost 6.5 million tons in 1986/87 and may rise a similar amount in 1987/88. While still 9 million tons below the record 1984/85, these gains are impressive in the face of many factors which continue to constrain world trade, such as rising output in several importing countries, high debt in some importing countries, and low commodity prices in developing countries. Soviet imports are rising this year, but remain more than 10 million tons below 1984/85.

Sharply lower U.S. loan rates under the 1985 Farm Act has led to adjustments in several key exporting countries. Harvested wheat area is down 5 percent from 1986/87 in Canada and is expected to drop 20 percent in Australia. While Canadian exports will not be constrained by the reduced production, Australia's will. In addition, the EC will have only limited supplies of quality wheat. Thus, U.S. exports are forecast at 1.35 billion bushels in 1987/88, almost 50 percent above 1985/86.

Global wheat production in 1987/88 is below consumption for the first time since 1980/81, world trade is expanding, and ending stocks the lowest since 1984/85. Thus, there has been a shift toward a better balance between supply and demand.

Over the next few years, a reduced level of prices will continue to constrain output growth abroad and shift cropping patterns away from wheat. A major uncertainty continues to be the reaction of the EC to large budget deficits from grain surpluses and subsidies. A number of programs are currently being discussed by the EC to deal with the budget deficits, including acreage reduction programs similar to ours. Also, the level of Soviet dependence on imported grains could diminish as both productivity and wheat quality improve.

Rice

Global rice production in 1987/88 is down more than 5 percent from last season because of inadequate monsoon rains throughout most of South and Southeast Asia. With the exception of India, most of these countries must turn to the relatively small world market to at least partially offset production shortfalls. However, with rice crop down in Pakistan and Thailand, foreign exportable supplies are tight.

U.S. production and stocks are also down from a year earlier, especially for long-grain rice. U.S. rice exports exceeded 85 million cwt. in 1986/87, up 45 percent from a year earlier. While tight supplies and higher prices may limit exports to around 80 million cwt. in 1987/88, the U.S. market share will rise to over 25 percent.

Given normal weather, global rice production should expand next year and prices decline. Over the next several years the marketing loan program will insure that U.S. export prices will not become uncompetitive because of high U.S. loan rates. However, as long as U.S. supplies remain tight, exports will have to compete with expanding domestic use.

Feed Grains

The global feed grain outlook for 1987/88 includes prospects for smaller production, expanding use, and a drawdown in stocks, especially in the United States. Even with record yields, a 24-million-acre reduction in harvested acres reduced our 1987 feed grain harvest one-fifth below 1985/86. Domestic use, following a 6.5-percent gain in 1986/87, is forecast to increase further in 1987/88. The story is the same for exports. Sharply lower U.S. prices and expanding demand in Korea, Mexico, and other key countries raised exports almost 10 million tons in 1986/87. For 1987/88, reduced competition from South Africa, Thailand, and Eastern Europe is expected to result in another 5-million-ton gain. Thus, total use in 1987/88 should far exceed production, pulling ending stocks down about one-tenth.

This year's corn crop, at a little under 7.2 billion bushels, was down almost 1 billion from last year. Domestic use of this crop likely will exceed last season's high level. Corn exports, after jumping by 21 percent last season, could rise an additional 10 to 15 percent in the new crop year, thanks to expanding world demand (especially in East Asia), lower U.S. prices, and reduced supplies in several key exporting countries. Corn is the major reason why the U.S. share of world feed grain exports is rising from only 44 percent in 1985/86 to an estimated 60 to 65 percent in 1987/88.

Over the next few years, large debt in some developing countries, the trade-restricting policies of many countries, and large supplies of competitive grains may moderate the expansion in world trade and keep pressure on feed grain prices. Eventually, however, the reduced level of global prices should constrain expansion by competitors and stimulate use, strengthening the outlook. Major uncertainties in the U.S. export outlook include purchases by the USSR, China, and sales by the EC.

Oilseeds

Global and U.S. stocks of soybeans are dropping in 1987/88 as gains in use exceed a modest rise in soybean production. Most production gains are expected in South America, where area plantings this fall are well ahead of year-earlier levels in both Brazil and Argentina. With favorable soybean prices compared to competing crop prices, mainly grains, area is shifting to oilseeds. Our own soybean crop was up, as good yields more than offset a further drop in area.

In spite of record supplies of other oilseed crops around the world, soybean meal use should rise 2 to 4 percent, led by gains in the United States, the centrally planned economies and some developing countries, including Brazil. Recent purchases of U.S. soybeans and soybean meal by the Soviet Union point to another potentially strong gain in soybean meal use which would move the USSR closer to the goal of eliminating a protein deficiency in animal feeding. Smaller Soviet harvest of some oilseed crops and the lower dollar also point to increased imports of soybeans and meal in 1987/88.

U.S. meal use should show a solid year-over-year gain, sparked by a strong rise in poultry and hog numbers. Higher soybean meal prices, however, may cut feeding rates and reduce pipeline stocks of soybean meal away from crushing mill sites. The result would be a more modest rise in apparent disappearance.

Soybean meal use in other industrial countries may show little change overall. A decline is likely for EC meal use because of record rapeseed output and slow growth in feeding units. Helped by a weak U.S. dollar, our soybean meal prices remain attractive to EC importers.

Soybean oil inventories continue to rise in the United States because of a larger soybean crush and expanded production of competitive oils abroad. Vegetable oil imports are increasing for a number of countries, including India and China. Drought has added significantly to India's import needs. Rising consumer incomes in China have increased per capita usage of vegetable oils, which has been among the lowest in the world. North African countries may also add to global trade and U.S. exports in the year ahead.

U.S. soybean prices are expected to show significant gains in 1987/88 as stocks are drawn down. However, gains will be moderated by the availability of Commodity Credit Corporation (CCC)-owned inventories, which are priced at 105 percent of the \$4.77 announced loan rate plus handling charges. CCC-owned inventories have declined sharply in the past year. A further significant drop is anticipated this year, which will temper CCC's impact on market prices in the future.

The U.S. supply and demand balance could tighten further over the next year or so. However, even if higher prices do not result in substantially larger U.S. production, output ~~could~~ be expected to expand in other countries, dampening world prices.

Cotton

Prospects for 1987/88 are for global cotton demand to moderately exceed production. Output is projected up about one-tenth from 1986/87, owing primarily to larger crops in the United States, China, Mexico, and Brazil, while world use is projected to nearly match last season's record high.

Strong demand for U.S. cotton likely will reduce stocks by about 1 million bales, to near the 4 million bales specified as a goal in current legislation. While the 1987 crop forecast is up 43 percent from last year to nearly 14 million bales, boosted by record yields, total disappearance is expected to increase about 6 percent to 15 million bales.

Longer term U.S. export prospects appear fairly bright. Export supplies are expected to remain abundant and prices competitive under the auspices of the Food Security Act of 1985. Thus, U.S. exports should be able to maintain the current market share of nearly 30 percent of world trade during the late 1980's. The exact level of U.S. exports will critically depend on developments in international trade. Competition for world markets likely will come increasingly from Pakistan, Australia, and some of the smaller exporting countries, with prospects for the Soviet Union and China likely limited by relatively tight supplies available for export.

Livestock and Poultry

World animal-product output likely will increase modestly over the next 12 to 18 months, with increases in poultry and pork more than offsetting a slight decline in beef and veal. Poultry meat production will continue to increase in most countries. World pork production is slipping a little in 1987, primarily as a result of a sharp decline in China -- the world's largest producer. China's production is expected to rebound next year and this combined with large increases in the United States will push world production higher. Reductions in beef and veal production in the United States, EC, Canada, and Argentina will more than offset increases in the Soviet Union, Mexico, and Brazil.

Total meat production in the United States is expected to be at record level again in 1988 as increases in pork and poultry more than offset lower beef output. Most of the decline in beef output will come from the nonfed's as feed costs are expected to be relatively low and a larger percentage of the steers and heifers are finished in feedlots. Continued increases in meat output will put strong downward pressure on livestock and poultry prices and squeeze producer returns during the coming year.

The U.S. cattle inventory continues to decline. The January 1, 1987 inventory was at the lowest level since 1962 and the total at the beginning of 1988 probably will be down again. The cow inventory on January 1, 1987 was the lowest since 1961 and the indicated calf crop for 1987 continues to show a decline. The smaller inventory suggests that beef production will decline

again next year after having dropped about 4 percent in 1987. The lower beef production will be positive for cattle prices in the coming year, but the large total meat supplies probably will hold down price gains.

Hog inventories have begun to increase in response to higher producer returns during 1986 and 1987. Pork production is showing strong gains this fall and increases in output are expected to continue throughout the coming year. Prices in 1988 are expected to be down sharply from the levels of the past 2 years. This likely will squeeze returns, but producers probably will still be able to at least cover cash expenses if feed prices do not increase more than currently expected.

Poultry meat output continues to trend upward with both broilers and turkeys showing strong gains in 1987. Returns to broiler producers have remained favorable despite output gains. The favorable returns are expected to result in continued gains in broiler production in the coming year, but the rate of increase is likely to slow from those seen this year. The increased production probably will result in lower broiler prices and a squeeze on producer returns. Turkey producers' returns have been squeezed during the last half of 1987 and this is expected to result in a slowing in the gains in production in the coming year.

Egg production is increasing in 1987, but it could decline slightly in the coming year. Prices have been under the pressure of the larger supplies and this could squeeze producers' returns enough to result in lower production next year.

Dairy

Milk production during 1986/87 was down 2.5 percent from the year-earlier level. This decline was primarily the result of the Dairy Termination Program that ended August 31, 1987. It allowed producers to leave dairying for at least 5 years in exchange for payments from the Government. Milk production has now returned to levels above those of a year earlier and 1987/88's total probably will be up. The amount of the increase is very much in question because the price support level for 1988 will be reduced if the projected CCC net removals are above 5 billion pounds (milk equivalent).

Commercial use of dairy products has been showing strong gains, and was up over 2 percent in 1986/87. A further, although perhaps smaller, gain in commercial use is anticipated in the coming year.

Sugar

U.S. production is forecast at a record level in 1987/88, as beet and cane growers in most areas have increased plantings and enjoyed excellent yields. In addition, beet processors in some areas are reportedly achieving record sugar recovery rates. This year's expected outturn is 6 percent above last year's and nearly one-fourth higher than 1984/85. Deliveries of U.S. sugar for domestic consumption, which had been on a 10-year slide until 1986/87's 2.5-percent gain, may expand another 1 percent this year. Substitution of corn sweeteners for sugar in the domestic soft drink industry may have run its course and gains in use by bakeries and confectionery manufacturers may now provide growth in corn sweetener use. The consumption rebound has helped to

diminish the pressure on the size of the U.S. sugar import quota; nonetheless, U.S. sugar imports in 1986/87 were little more than one-third of their level at the beginning of the decade.

U.S. Farm Income and Food Prices

U.S. commodity supplies will be large in the coming year, with expanded meat production. Livestock and poultry prices will be under pressure, while crop prices will average higher as supplies are worked down. To farmers, marketing receipts should slightly improve in 1988, while consumers will have generous food supplies at only modestly higher prices.

Farm Income

Marketing receipts in 1988 should slightly exceed the \$132 billion estimated for 1987, as higher crop receipts offset lower livestock returns. Gross cash income could slip slightly from this year's \$154 billion, if direct government payments are down because of higher crop prices.

Production expenses likely will remain at a reduced level in 1988; but cash expenses could be up slightly from about \$97 billion in 1987, as prices farmers pay average higher for feed, fuel, and fertilizer. With a little less gross income and slightly higher production expenses, net cash income in 1988 may slip from this year's record level of \$56-58 billion, but income likely will remain in the range of \$50-55 billion.

Net farm income in 1988 may total \$40-45 billion, close to this year's record level of \$44-46 billion. An increase in the value of inventories because of higher crop prices will add to net farm income in 1988.

Food Prices

A modest increase in food prices of 2 to 4 percent is in prospect for 1988. Larger supplies of pork and poultry are likely which will dampen food price gains. Also, a moderate rate of inflation, of around 3.5 to 4 percent, will help hold down the increase in food prices.

Food prices in 1987 are averaging slightly more than 4 percent above 1986, reflecting higher prices for beef, pork, and fish. The retail cost of a market basket of farm foods is expected to be up about 3.5 percent in 1987, with the farm value increasing only 1 percent and the farm-to-retail price spread rising 4 percent.

Prospective International Markets for U.S. Agricultural Products

Over the next several years, the outlook is for continued gradual improvement in the global crop supply-demand situation. This will be in response to improved global demand and dampened production in other countries. U.S. exports are expected to benefit from the growth in global demand and competitive U.S. prices.

Crop Production and Demand Trends Abroad

The value of U.S. agricultural exports declined sharply during the first half of the 1980's, from a peak of nearly \$44 billion in fiscal 1981 to around \$26 billion in 1986. U.S. exports fell as the gap abroad narrowed between foreign crop production and crop consumption.

When we look back over the 1980's, we can see the gap narrowed. Crop production abroad grew one-third more quickly than it had in the 1970's. Meanwhile, the pace of consumption growth slowed to only one-half of the 1970's rate. Global trade actually declined in the first half of the 1980's. This slowing in consumption growth and drop in trade resulted from events triggered by the worldwide economic recession and policies by governments in other countries.

Grain Import Growth Abroad

The impact of developments stemming from the recession and from government policies have varied considerably among countries or groups of countries.

Imports by industrialized countries have declined sharply in the 1980's, after increasing in the 1970's — the European Community changed from a major importer to a large exporter. Imports by centrally planned economies also have dropped, after gaining sharply in the 1970's. China, now an exporter of corn and cotton, was a major importer several years ago. Eastern Europe's imports have dropped due to reduced credit availability, particularly in Poland.

In spite of numerous problems (especially debt), imports by developing countries have continued to grow, although more slowly than in the 1970's.

Developing Countries: Grain Imports and U.S. Share

The developing countries likely will continue to increase global grain imports and could be a source of expansion for U.S. agricultural exports.

Grain imports by the developing countries have been increasing nearly 3-1/2 percent per year in the 1980's, and their share of global grain imports is rising. But the United States has not been able to take advantage of these rising imports. The United States has been losing out to competitors, with the U.S. market share dropping from 59 percent in 1982/83 to 41 percent in 1985/86. Even with share losses, the United States has become more dependent on developing countries for markets — over 58 percent of U.S. exports went to these countries in 1986/87, up from 36 percent in 1981/82.

For the coming year with the improved competitive position of U.S. grain, the U.S. market share of the world grain market should increase to 51 percent. Developing countries will take around 53 percent or 47 million tons of our total wheat and feed grain exports.

Economic Growth Rates in Developing Countries

The economic recession and debt problems have led to a slowdown in consumption and imports by developing countries in the 1980's. But growth has continued, with assistance in some instances from governments in other countries.

It is likely that imports will grow even faster over the next several years if economic recovery picks up and the debt situation eases. High income growth countries, such as South Korea and Taiwan, are already showing fast rates of growth in income, consumption, and imports.

The United States should be in a good position to take advantage of market growth because of competitive prices and a cutback in competitor supplies.

Centrally Planned Economies and Market Potential

The developing countries are not the only ones with potential for increased consumption and larger imports of grains and soybeans. Countries with centrally planned economies will expand consumption of agricultural products, especially meat products where grain (including wheat) is an important part of feed rations. The key question is whether the expanded demand for agricultural products will be met through domestic production or imports.

In the Soviet Union, for example, wheat imports will increase this year, but imports as a share of consumption will remain below a few years ago. While the Soviets may continue to be relatively large importers of both wheat and feed grains in the years ahead, the goal of moving toward self-sufficiency could be met through government policies.

China became less dependent on grain imports in the first half of the 1980's, as farmers responded to government incentives to increase output and weather tended to favor yields. More recently, it appears that China's dependency on imports is increasing again. For wheat, imports in 1987/88 could rise faster than consumption from domestic sources and represent the largest share of total use since 1982/83. Changes to a more open economy and a rising standard of living could again favor grain imports in the future.

Industrialized Countries and Market Potential

Even the industrialized countries could become larger importers of U.S. agricultural products. This could result from policy changes that would dampen production expansion and stimulate consumption. For example, an industry study shows that the removal of restrictions by Japan would lead to larger feed grain imports.

The GATT negotiations are expected to lead to a reduction in agricultural subsidies and barriers to trade. Market orientation was endorsed at the OECD ministerial conference and at the Vienna summit. And the United States has proposed the gradual removal of agricultural subsidies and barriers to trade.

So, the years ahead may very well offer the opportunity for the most efficient producers to more freely compete for, and gain, market share.

In summary, there likely will be further improvement in the supply-demand situation over the next few years, based on: improved economic and financial conditions in developing countries; the participation by other countries in bringing supplies into better balance with demand; and the dampening of production and the stimulation of consumption by the elimination of some agricultural subsidies and trade barriers.

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THE OUTLOOK FOR U.S. AGRICULTURAL TRADE AT A CRUCIAL PERIOD IN TRADE POLICYMAKING

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Samuel Goldwyn, the movie mogul, used to advise people: "Never make predictions, especially if they're about the future." Nevertheless, this year it is a pleasure to be able to make predictions for 1988, since all indicators point to it being a "winner" in terms of agricultural exports.

Certainly, it's going to be a big year for bulk commodity sales--that's already apparent from the purchasing pace of the first few months of fiscal 1988. USDA economists are forecasting that:

- o The projected U.S. share of world trade in bulk commodities in fiscal 1988 is up to 48 percent, an increase of 4 percentage points from 1987, equaling the highest level since 1982/83. In the fiscal year just ended, the U.S. share was up about four percentage points from the year before and the highest market share since fiscal 1984.
- o For individual commodities:
 - o U.S. wheat and flour exports are expected to rise 27 percent in fiscal 1988--a record year of increase. Both the USSR and China are expected to buy sizable quantities of wheat. The United States is projected to capture nearly 39 percent of the world wheat market, up 6 percentage points from the 1986/87 figure.
 - o U.S. coarse grain exports are expected to rise around 7 percent, the second year in a row that volume will go up. Meanwhile, export value is expected to increase for the first time since 1984. The U.S. share of the world's coarse grain trade is expected to expand 4 percentage points to 61 percent.
 - o The export value of U.S. oilseeds and products has stabilized, in spite of strong competition from South America and increasing production in the EC, our major market for these commodities. Recently reported large sales of soybeans and soybean meal to the USSR represent a significant trade breakthrough.

- o U.S. cotton prospects for fiscal 1988 are bright. Production is estimated at 13.9 million bales--up 43 percent from a year ago. Higher demand should prevent rebuilding of stocks. Domestic consumption is forecast at 7.8 million bales, the largest in recent years. Exports are forecast at 7.2 million bales, a gain of 12 percent.

At the same time, U.S. high-value products, which have bucked the downtrend that affected bulk commodity exports in recent years, remain a bright spot. Already up to nearly half the value of U.S. farm exports in fiscal year 1987, sales of these products are likely to get a further boost in 1988 from the recent decline in the dollar. In fact, the attractive price for U.S. high-value products in the European market may make for a real surge in sales there.

The export value of beef, veal, poultry meat and poultry products rose about one-third in fiscal 1987 with some assistance from government export programs. Export values of these items are expected to increase 5 to 6 percent in fiscal 1988 as the declining dollar and lower feed prices make U.S. poultry and beef more attractive in commercial markets.

Worldwide, the Targeted Export Assistance Program, which is designed to help U.S. exporters counter the effects of unfair trading practices by foreign competition, also is enhancing the sales prospects for U.S. high-value products.

Factors Behind the Outlook

A number of economic factors are converging with government policy and program decisions to produce this favorable outlook.

Government policies designed to bring us through the transition to a market-oriented agriculture are beginning to have an impact on our domestic supply situation and export trade. Lower loan rates for grain crops and an array of government programs designed to make the United States a more competitive player in the world marketplace have put us "back in the ballgame" in bulk commodity trade.

To bring U.S. domestic and export prices more in line with the world supply situation, we have lowered the loan rate by 32 percent for feed grains, 34 percent for wheat and more than 18 percent for rice. The Export Enhancement Program, one of the transitional tools created by the Food Security Act of 1985 to permit recovery of slumping export sales, has helped sell about 20 million tons of grain overseas in fiscal 1987. As a result, U.S. wheat stocks declined by 2 million tons and are expected to fall another 12 million tons in 1988. Rice stocks in the United States are down to pipeline levels and are expected to decline 11 percent from 1987 levels.

This aggressive export effort has been accompanied by continued willingness to bear a share of the responsibility for the problem of oversupply in relation to commercial demand which besets all agricultural exporters. Conservation and paid land diversion programs idled over 71 million acres in 1987. That's equal to about one-third of the arable land in the European Community which, by the way, has made no cutbacks in the amount of land devoted to agriculture.

Target prices have been cut by 2 percent across the board. We will continue to pursue this mixture of policies, demonstrating both our willingness to eliminate incentives for overproduction in the United States, and our willingness to make it expensive for other advanced agricultural exporters who fail to do otherwise.

Excluding the United States, world wheat production is off about 3 percent from a year ago while coarse grain and rice production also are down slightly. Among our major competitors for the world wheat market, both Australia and Canada have sharply smaller crops. Coarse grain crops in Eastern Europe, generally an importing region, are down more than 10 percent. Drought in India has sharply reduced that country's oilseed crop. These developments also point to expanded opportunities for the United States.

World cotton production prospects of 77.1 million bales are below last year's level, primarily due to adverse weather in several major producing areas. Cold weather, rain and snow during the Soviet harvest is the most significant weather factor. World consumption will be down slightly, however, smaller global carryin stocks and lower world production have reduced world supplies. Ending stocks for fiscal 1988 are expected to drop 5.5 million bales to 26.1 bales.

On the demand side, with the recession of the early 1980's behind them, consumers in developed countries are poised to spend more on food, clothing, and other consumer goods. This is occurring at the same time that the declining value of the U.S. dollar is making U.S. products less expensive for foreign buyers. Since March 1985, the U.S. dollar has fallen 35 percent against the world's major currencies. In the last year alone it has fallen 15 percent. This is particularly beneficial to our specialty crops and high-value products. Although the exchange rate situation has helped the United States, it also has improved the situation of some of our competitors.

Looking at demand in specific markets, perhaps the brightest spot is the Pacific Rim. This region holds not only our largest bloc of importers; it also has the fastest growing economies in the world. U.S. exports there are projected to rise about 14 percent.

Japan's strong economy is fueling domestic spending. This, along with the strong yen, is contributing to increased demand for imported feed grains, cotton and livestock products. U.S. exports to Korea and Taiwan also are expected to rise as economies there continue strong and the relative position of the U.S. dollar improves our trade terms. Efforts to reduce huge trade surpluses with the United States by "buying American" also should fuel U.S. exports to this region.

U.S. exports of farm goods to the European Community are also expected to continue rising in fiscal 1988. Following several years of decline, U.S. exports to the European Community rose 5 percent in fiscal 1987. Further gains are foreseen next year, particularly in the high-value products area.

After increasing almost one-quarter in 1987, U.S. exports to Canada are forecast to increase again in 1988, as Canada's economic performance continues to improve.

U.S. exports to the USSR, after falling in 1987, also are expected to rebound in 1988. U.S. sales of soybeans and products have already topped 2.1 million metric tons this fiscal year.

The recent Soviet purchase of 1.3 million metric tons of soybean meal is believed to represent half of the current estimated Soviet meal imports for 1987/88. The Soviets desire to expand their livestock industry appears to be a key factor in their purchases. The Soviet Union has also been an active participant in U.S. grain markets, buying 3.3 million metric tons of U.S. wheat and coarse grains as of the end of last week.

China, too, is once again back in the U.S. grain market. China is eligible to buy 1 million tons of U.S. wheat under USDA's Export Enhancement Program. Its purchases since January 1987 have totaled 2.3 million metric tons. Thailand, a major U.S. competitor in the rice and corn markets, was affected by the failed monsoon. The adverse weather also hurt other markets in that region. The situation should provide opportunities for U.S. exports, especially corn.

In other words, after years of dealing in a buyer's market, we appear to be in for another solid recovery in fiscal 1988. The United States appears to be in a good position to make sales in a market that is notably improved over the past two years. U.S. farm programs have been adjusted so that we are now competitive in the world marketplace, the U.S. dollar is priced attractively against a number of key importing and competitor countries, and we have ample supplies to meet the needs of buyer countries.

The Outlook for 1988

Adding these supply and demand factors together, U.S. export volume is projected to rise to 137 million tons, up 8 million tons or 6 percent from 1987. On a percentage basis, that's on a par with the annual gains that occurred many years during the "Soaring Seventies."

The possibility of continued growth in U.S. export volume is still likely. Although prices have improved somewhat, a stock overhang continues in the market, especially in the grain sector. Full price recovery will not occur until these stocks are reduced. There has been some encouraging reduction in the stocks of the Commodity Credit Corporation.

Regarding export value, prices are projected to improve for bulk exports due to tightening world supplies. In addition, the decline in the value of the dollar should stimulate demand for U.S. high-value products, and import demand around the world should strengthen as countries make further recovery from the recession of the early 1980's. Export value is forecast to total \$31 billion, up \$3.1 billion or 11 percent from last year.

Agricultural imports are projected at \$20.5 billion--nearly the same as last year. With imports at that level, the 1988 U.S. agricultural trade surplus should reach \$10.5 billion, bettering the 1987 figure by more than \$3 billion. Since the two monthly trade deficits experienced in the summer of 1986, the United States has run consistent trade surpluses that included a \$720-million surplus in July. We expect further improvement in the months to come.

The Longer Term Trade Outlook

It is impossible to talk about the longer term outlook for U.S. agricultural trade without taking a close look at what is happening in the trade policy arena. The past year has been one of important progress in the Uruguay Round of the GATT talks on agriculture.

Last July in Geneva, the United States laid down the most far-reaching proposal for policy reform ever presented in a trade negotiation. We said that, except for a few safety-net provisions, all countries should abolish all subsidies and all trade barriers for agricultural products in ten years. I'd like to explain why this is the only goal that makes sense.

The agricultural policy objectives of most countries boil down to two: Assuring the prosperity of the rural economy, and assuring ample food supplies for all the people. But the world's nations go about achieving these goals in different, often conflicting ways.

The United States, which has the resources to produce most foods in abundance, can meet domestic food needs easily. But we depend on export markets to provide a large share of farm income. We currently export the output of about one acre in four and have the potential to increase exports even further. However, that potential depends on the willingness of all countries to open their markets and to compete fairly...to let producers compete against producers without Government help.

Countries like Japan and Switzerland, which do not have the resources to produce food in abundance, assure rural prosperity by letting consumers pay high prices for food. Trade barriers that keep prices high are alleged to be cheaper than subsidizing farmers directly from the Government budget. This reasoning overlooks the cost of keeping resources in inefficient activities.

The European Community began as a net importer of most agricultural commodities 20 years ago. Consequently, it also developed policies that make consumers pay high prices for food. However, the EC has since become one of the world's largest exporters of grains, meat, dairy products, and sugar and must pay enormous sums to cover export subsidies for those products. The EC currently is searching for a way out of this financial dilemma. But the EC is searching in the wrong direction for more trade barriers and more production controls. These are the policies that lock inefficient production into place and stop growth in the EC as well as other countries that depend on expanding markets.

Developing countries face different problems. For them the rural sector is usually the bulk of the population. Sometimes, because the general level of income is low, these countries can export at competitive prices. But often they are obliged to compete with developed country export subsidies. This forces them to use whatever tools are available--tax exemptions for exporters, exchange rate manipulation, state trading and countertrade arrangements. The difficulty of competing in closed and distorted markets may prevent them from earning the exchange they need to import. Consequently, imports must be limited to essentials.

While none of this is news, the point is that if agriculture is to prosper, participants in the Uruguay Round must resolve the fundamental trade policy conflict between open and closed systems. That is what the U.S. proposal would do. If adopted, it would mean profound changes in the way the world's agricultural community does business.

Very simply, the United States proposed linking subsidies and access barriers in order to phase out entire systems of excess support and protection that have led to price-depressing surpluses. We are convinced the piecemeal approach of past negotiations will not work.

The U.S. proposal also seeks an international approach to health and sanitary regulations. These rules need to be based on scientifically verifiable needs and should not be used simply to restrict trade. As it stands now, commodities produced and exported under one country's regulations have to conform to different regulations in importing nations, thus complicating trade. Standardizing health and sanitary rules worldwide would prevent this.

It is important that other contracting parties to the GATT voice their proposals so that the negotiations can proceed rapidly. The United States is pleased there have been several more proposals since the U.S. proposal was entered in July.

In October, the European Community presented a proposal to the GATT. While the EC's call for multilateral reductions in production incentives was welcome, much of the rest of the proposal was retrogressive in that it seems to favor even greater government involvement in agriculture, despite statements to the contrary. Overall, it appears the EC proposal could result in more market sharing, more price fixing, and more market barriers. Such an approach will not bring us closer to our goal of expanding trade opportunities for efficient producers.

Another proposal by 13 nations in the Cairns Group was more encouraging. It favors a market-oriented agriculture and procedures for achieving it which are similar to those outlined in the U.S. proposal. Our main U.S. concern with the proposal is its emphasis on short-term actions and the lack of a clear, definitive link between these actions and long-term reform. Short-term actions can be effective only as an integral part of a long-term reform process.

Canada has also presented its own proposal which calls for long-term elimination of subsidies and access barriers. Additional proposals may be put on the negotiating table when the Agriculture Group meets in Geneva later this month.

The pace GATT members have set in tackling the problems that beset agricultural trade is encouraging. In the last GATT round it took four years just to get to the point of serious discussion of agriculture. That point has been reached in little more than a year in this round.

However, it is clear from the widely different proposals that it will not be easy to achieve a basic change in policy direction, even though most countries agree that basic changes are necessary to restore stability and fairness to world markets.

It is imperative that GATT members not take a short-term view of what needs to be accomplished in the Uruguay Round.

Without a doubt, the outlook for U.S. and world agricultural trade for the rest of this century and well into the next will depend on the policies adopted during the Uruguay Round. Members of GATT have the opportunity to turn the situation in a forward direction that will have positive long-term effects on agricultural growth and encourage trade opportunities. Hopefully, at next year's Agricultural Outlook Conference, we will be able to report positively on the results of their efforts.

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TRADE CHALLENGES: THE INTERNATIONAL VIEW

Aart de Zeeuw
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General Agreement on Tariffs and Trade

Unfair competition on international markets; import restrictions; subsidized exports. These are the results of the implementation of national agricultural policies in the many developed countries, which has stimulated production too much in relation to market possibilities. Budgetary problems in the developed world and too low incomes in the developing countries, which are highly dependent on export, are but two of the effects of the completely distorted international market. It is obvious that this situation may not continue; not only for the sake of agriculture itself, but also because of its negative effects on other sectors of the economy.

Mr. Chairman,

You have invited me to address the Outlook Conference. I consider that a great honour. I am addressing this conference as chairman of the GATT Negotiation Group on Agriculture, which has been entrusted with the task to liberalize agricultural trade in the Uruguay Round which has begun last year.

For this purpose rules will have to be drawn up to improve the access to markets, to reduce or eliminate subsidies which have a negative effect on trade and to harmonize veterinary and phytosanitary regulations.

Can it be done? GATT has been existing for forty years. During that period the trade in industrial products has been largely liberalized, but agricultural protectionism has greatly increased. You are all familiar with the causes.

From the beginning of GATT's existence agriculture has held an exceptional position. Article XVI allows agriculture to subsidize exports;

under article XI the quantitative restriction of imports is possible.

Industry never had these options and still doesn't have them.

Moreover, in the practice of trading other instruments have been developed, which have greatly restricted trade: such as "voluntary" export restraint agreements, minimum import regulations; variable levies and restitutions, incorrectly applied state trading, etcetera. And finally, some countries have been granted special rights, such as the United States Waiver. In retrospect it can be argued that despite the fact that we got off to a bad start, we did nothing to improve the situation. On the contrary, we aggravated it.

Again: do we in the Uruguay Round stand a real chance of realizing a breakthrough in the liberalization of agricultural trade? I am convinced that it is possible. Never before was the political will so clear. I will give you some examples of statements made at high political level.

At the Venice Summit the following was agreed by government leaders: "We underscore our commitment to work in concert to achieve the necessary adjustment of agricultural policies, both at home and through comprehensive negotiations in the Uruguay Round. In the meantime, in order to create a climate of greater confidence which would enhance the prospect for rapid progress in the Uruguay Round as a whole and as a step towards the long-term result to be expected from those negotiations, we have agreed, and call upon other countries to agree, to refrain from actions which, by further stimulating production of agricultural commodities in surplus, increasing protection of destabilizing world markets, would worsen the negotiation climate and more generally damage trade relations."

And at the OECD ministerial meeting in May of this year in Paris the following declaration was issued:

"All countries bear some responsibilities in the present situation. The deterioration must be halted and reversed. Some countries, or groups of countries, have begun to work in this direction. But, given the scope of the problems and their urgency a concerted reform of agricultural policies will be implemented in a balanced manner."

Not only the objective to which the Contracting Parties in Punta del Este have agreed, but the afore-mentioned statements made in Paris and Venice as well hold promise of success. In the long term we must seek to "...allow market signals to influence the orientation of agricultural production, by way of a progressive and concerted reduction of agricultural support, as well by all other appropriate means, giving consideration to several other concerns such as food security, environmental protection and overall employment."

The central themes are a more market-oriented policy, the reduction of support and the decoupling of income support from the market and price policy.

According to the Punta del Este Declaration a more market-oriented policy should be translated into:

- improved import access;
- reduction of trade-affecting subsidies;
- reduction of the adverse effects of phytosanitary and veterinary regulations.

It will have to be examined whether the proposals tabled in Geneva fulfil these criteria. With regard to the long-term solution it is clear that the American proposals are the most drastic ones: full market access, that is a complete recoupling of markets on the one hand, and income support decoupled from production and market incentives on the other. All other subsidies should be phased out over a period of 10 years.

The European Community proposal is less drastic. The EC wishes to maintain the two price system and can therefore not accept the complete recoupling of markets. Improved access to the EC-market, however, is offered. Furthermore, the Community negotiating plan includes the idea of decoupling income support from the market and price policy. Finally, the EC wishes to negotiate a considerable reduction of support levels.

The proposals by the Cairns Group and by Canada also seek recoupling of markets by eliminating import restrictions and subsidies which distort production and trade. As concerns a short-term solution, the EC and the Cairns Group are in favour of measures aimed at products for which

the world market situation has been distorted most. Up till now the United States has opposed such measures, as it is feared that this approach could jeopardize the more structural long-term solution.

Although the Nordic countries and Japan have not yet submitted their proposals, they are likely to advocate managed trade on the basis of supply management and production control. In this way these countries can continue to guarantee their producers a market price which is remarkably higher than the world market price. Import restrictions and production controls are appropriate policy instruments for this purpose. The Nordic countries and Japan refer to Article XI of the GATT, under which it is allowed to introduce quantitative import restrictions when domestic production is effectively restrained.

In summary, it can be said that exporting countries such as the United States and the countries of the Cairns Group propose to completely integrate agriculture into GATT, and thus to completely eliminate the exceptions, which under articles XI and XVI have been created for agriculture concerning quantitative import restrictions and export subsidies.

The EC proposals are less drastic in this respect and leave open to what extent the Community wishes to integrate agriculture into GATT. It shows the dilemma of the EC, being both an importer and an exporter. Finally, there are Japan and the Nordic countries whose export of agricultural products is negligible and which therefore do not object to more drastic disciplines in the field of export subsidies. As concerns import, however, these countries wish to fully control import. They are prepared to restrain domestic production in favour of a higher level of import.

From the afore-mentioned proposals two different approaches can be derived to restore agricultural world trade. The first one is the free market approach, which implies that the support of agricultural prices should be gradually reduced so that under this pressure supply will be brought down to the level of demand. The second approach is supply management. Supply management can also bring production down to demand level, but not by way of the price mechanism, but by way of production restraints.

The first approach is advocated by the exporting countries in particular. They interpret the objectives of Punta del Este as the recoupling of markets, to stabilize the movements on the world market. Demand and supply are balanced by the market price mechanism.

If decoupling is then introduced, as a result of which not only the support to farmers is reduced, but also made independent of the production volume, fair competition may improve the competitive environment. In that case surplus situations will develop not as easily anymore.

The second approach actually implies national production restraints as the basis of surplus control and as the basis of the import quotas allowed.

Countries which are net importers prefer this approach, as it will help them stabilize their domestic markets without having to follow price fluctuations on the international market. The system is indeed market-stabilizing, but it is not market-oriented. In fact it is based on Article XI of GATT, under which quantitative restrictions are allowed if production is under control.

The key question is: are we going to distinguish between exporting countries and importing countries, when we are developing adjusted or new GATT rules. If a country has a net exporting position, its internal market may not be isolated from the world market. But if the country is in a net importing position, isolation of his own market could be accepted if its domestic production is restricted and if a minimum access commitment is applied.

Personally, I would rather not make this distinction with regard to exporting and importing countries. I would prefer the more market-oriented policy in both situations. After all, our experiences of a policy aiming at a high level of protection have not been too good. In spite of the condition of production control, production has easily increased as a result of which trade was restrained more than necessary.

But if we wish to find a solution in terms of more open markets, we must realize that it is only possible if we take into account the fact that in countries where the competitive power of agriculture lags behind, it is

difficult for certain basic products to realize guaranteed incomes only through the market plus direct income support.

A possible solution could be the introduction of fixed import levies, bound in GATT. Their level could be negotiable, but should not stimulate an unjustifiable production increase.

This solution would enable countries, which cannot accept a completely open market, to realize a higher internal market price without nullifying the effect of price fluctuations. We will then have to accept that the support, in this case protection at the border, will only consist of this bound levy. It will replace not only quantitative import restrictions, variable levies, minimum import prices, voluntary import restrictions, etcetera, but also national subsidies in the form of deficiency payments, direct export subsidies, transport subsidies, export credit facilities and so forth. Such a system of recoupling markets should have a price stabilizing effect on the worldmarket and would allow less protective trade systems. I realize that there could be another destabilizing factor, namely the highly volatile rates of exchange of major currencies. A GATT agreement on agriculture would be difficult to realize if there would be a continuation of the present monetary disorder.

It is conceivable that an exception could be made for export subsidies to be financed by agriculture itself, to bridge the gap between the internal market price and the world market price, insofar as the gap is the result of a moderate fixed import levy. It is also conceivable to allow exceptions on the general rule for a restricted period of time for food importing developing countries and even for some products in food importing developed countries, because of the need of restructuring their agriculture.

I present these views to you only for consideration, not yet as a compromise solution. For I am of the opinion that a considerable number of countries are not yet willing to pursue a policy of recoupling the internal market with the world market. They are only willing to apply more market oriented policies to the internal market, not to the world market.

Lower guaranteed prices and less intervention are presented as a more

market oriented policy, whereas at the same time the internal market remains isolated from the world market as a result of import restrictions.

Of course, it is not simple to change domestic policy in such a way, that your home market will be integrated in the world market. It means in fact, that the EEC, the USA, Japan and others, over a certain period of time, may not use any instrument of production related support other than fixed bound levies aiming at guaranteeing higher internal prices. Although this is supposed to be the regular system for developed countries, we have to anticipate strong resistance within certain countries where the competitive power of agriculture lags far behind. If such countries would need more time of adjustment for certain commodities a longer transitional period is only acceptable if those countries would refrain from exporting and would guarantee a minimum access commitment. I am also aware that many food importing developing countries need also more time for adjustment. Those countries should be allowed to protect their markets in order to enable them to develop their agriculture with international assistance.

Mr. Chairman,

The various countries in their proposals also plead for measures in the short and medium term. I find this understandable, especially for countries which are heavily dependent on the world market for their economic development. But I also appreciate the viewpoint of the United States that short-term solutions are no use as long as a long-term solution has not been found. This brings me to the question when to expect the first results of the work done in GATT. I firmly believe that before the end of 1988 at least a framework for the long-term solution must have been accepted by the Contracting Parties, together with temporary short-term solutions, in particular for products clearly in surplus.

I am aware that a transition period is required as it will take years before a long-term solution will have been introduced into each national legislation.

A transition period of ten or more years I personally find too long, because experience has shown that decisions whose implementation takes too long are carried out only partly.

I have come to the end of my speech. I would like to express the wish that in this delicate stage of negotiations the countries most involved will not introduce measures which offer possibilities for more protection. I am thinking in particular of the discussions concerning the Trade Bill. The credibility of the United States is under discussion, if in the context of GATT its Administration tables very radical proposals for dismantling protection, and at the same time Congress is preparing a Trade Bill which allows for more protection. I am also thinking of the proposal of the EEC to introduce a tax on fats and oils and of the wish of several member countries of the EEC to put a levy on imported grain-substitutes. If this would happen, the climate for negotiations would severely deteriorate.

In particular the USA and the EEC must realise, that the negotiations can only become a success, when they are willing to create a favourable climate.

Mr. Chairman, Ladies and Gentlemen,

Your Agricultural Outlook Conference has reached the respectable age of 64, but is still alive and kicking. Rather than to look back on the past, you consider it more important to look out for the future. The present predicament of agriculture can only be resolved if the access to markets is improved; if real competition becomes possible again and if trade barriers are broken down. I am convinced that we can succeed. The political will is there.

ANNUAL AGRICULTURAL OUTLOOK CONFERENCE

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TRADE CHALLENGES/U.S. FARMERS' PERSPECTIVE

Dean R. Kleckner
President, American Farm Bureau Federation

To most of us, the farm export outlook appears brighter now, although with farm exports at \$28 billion compared to \$44 billion just six years ago, few are convinced that all is as it could be --or should be.

Philosophically, farmers in general have not changed their trade outlook. They realize trade expansion is important and that to be sound, it must be based on competitive advantages.

As practical people, most of us are skeptical that we personally will see the day when most important trade barriers to the sale of our commodities are discarded and foreign government subsidies eliminated.

But, we willingly work to this end and are hopeful that the GATT talks will move us firmly in this direction. We see those talks as offering the only realistic chance of dealing with these problems. Muddling along as we have been, competing in an escalating war of subsidies to the great benefit of others, including the Soviet Union --must stop.

Even as we move in this more positive direction, we realize that a wise U.S. agriculture must view trade policies from at least two or more levels. We must consider the shorter term policies that directly and immediately affect agriculture's bottom line... And, we must do this in relation to the broader, longer term trade issues that can have tremendous impact on economic growth both in this country and around around the world.

Since future agricultural prosperity is closely tied to increased economic growth among trading partners, this has to be a paramount concern when we examine trade bills now in Congress --and what they can mean to the GATT negotiations.

U.S. farmers and ranchers join GATT experts who, in a

report, have urged Washington to resist protectionist steps, saying that our national obsession with the trade deficit is misplaced. The report states that the real economic threat to this country lies in the federal budget deficit. To this, we agree.

It would be extremely foolish to allow the trade deficit to stampede us into erecting new trade barriers that could only deepen the problem. Several economists have concluded that if the worst of the House and Senate bills were passed into law, they would have a profoundly negative effect on the U.S. economy.

For this reason, we have opposed the Gephardt amendment mandating reductions in imports from countries that have a large balance of trade surplus with the United States, unless actions are taken by those countries to reduce the trade imbalance.

Since the countries targeted by this type of mandated balanced trade legislation would involve some of the largest markets for U.S. farm exports, American agriculture could suffer both from the retaliation sure to result and by the inability of affected countries to pay for agricultural imports from us.

Another wrinkle in proposed trade legislation that has received a great deal of attention is a provision that marketing loans be adopted in general by 1990, providing "insufficient" progress has been achieved on the subsidy issue in the Uruguay Round by that time.

The key issue here is trade policy... for the marketing loan is a form of variable pricing that implies the U.S. will allow the loan rate of an involved crop to drop as low as necessary to move commodities in international markets, with the government making up the difference.

Frankly, there are honest differences of opinion on whether this is the best approach to encourage progress in the trade talks and whether it is the best approach to stimulate exports. There are those who believe marketing loans would undermine our GATT efforts, not improve them, particularly if they were implemented immediately. The fact that this idea is being debated, however, points up the high level of interest in using new tools to get at the whole foreign subsidy issue.

These, and other reasons, make the trade bill debates of critical importance to American farmers. Right now, we find there is far too much focus on protectionism and far too little emphasis on trade expansion in both the House and Senate versions.

We are convinced that trade expansion holds the key to a better future, not just for farmers, but for everyone. We have

a vision of higher world living standards reached through mutually beneficial world trade.

American agriculture will hold firm to this vision as the GATT negotiations progress. We --all of us --have an obligation to take the long view... to join in reaching for the desirable goal of a much more open trading system.

It has long been apparent to us that many participants in prior Rounds of negotiation engaged in a form of holding action --doing as little as possible to open their markets while seeking to promote market-sharing agreements.

Unfortunately, some of this same mind-set continues today. We see it particularly within the Economic Community where the current goal continues to be mandated market "stability" rather than market liberalization.

Short term, internationally coordinated effort to "stabilize" markets thought to be suffering from the most serious imbalances, followed by longer-term measures to "stabilize" markets on a longer basis, works in quite the opposite direction from what American agriculture perceives as necessary. We have no interest in "stabilizing" our export share at \$28 billion.

Rather than liberalization, attempts at market-sharing are being made through the offer of international commodity agreements and other devices to allocate markets, control supply and restrict world prices to a narrow and "stabilized" range.

International allocation of markets and the determination of prices by government, limits both agricultural income and opportunity and, suppresses national economic growth.

Have-not nations will not stand idly by, accepting commodity prices set at artificially high levels. The prime result of any attempt to divide up the export market "pie" is to create a continually smaller pie as importing nations find new and ingenious ways to bypass unnecessarily higher prices.

The role of price as a market-rationing device must be recognized. Artificially high internal prices, whether called "intervention" prices in the E.C. or "target prices" in the U.S. or "food security" prices in Japan, encourage uneconomic production.

Under these conditions, politics, not economics, is the driving force with market-sharing agreements the attempted solution. Economic necessity, excellent transportation and bountiful supplies in alternate markets doom these cartel efforts to failure.

Any country --or even a big and somewhat unified European Community, can ignore the marketplace only as long as the political will and national treasuries hold out. Without correction, the two-thirds of the present Economic Community budget that is now consumed by the Common Agricultural Policy costs, will rise even higher. Attempts to patch up the system through international commodity or similar agreements, can only defer the problem.

Until progress is made toward less subsidization and a more open trading system, American farmers will not concede export markets to others who use export subsidies, marketing boards and other forms of support systems. Rather, we will continue to seek U.S. programs to counter this contrived competition that has, in recent years, relegated American producers to the status of world residual supplier.

We have been accused of undermining the GATT talks by resorting to the tactics and policies to which we say we object. We do not agree. Without the 1985 farm bill and the more aggressive use of such activities as the Export Enhancement and Targeted Assistance programs, there would not have been the pressure for international reform in farm trade that now exists.

It is pressure that we can use to good advantage.

Will the U.S. be able to wean itself away from dependency on these programs when the time comes? There is no doubt in my mind that we can.

Farm Bureau members generally support the concept and objectives contained in the Administration's proposal for a phase-out of all subsidy payments within ten years. The extent to which this will cover domestic programs depends largely on whether other countries are willing to commit themselves to phasing out their own similar programs.

I think the initiative is good --right --and, timely. Pressure for response to this initiative must be maintained on our trading partners --some of whom are already leaning toward reducing government subsidies in agriculture as a no-win proposition. Involved in no less than \$100 billion in annual payments currently extracted from taxpayers around the world.

The most radical result of this proposal has been to place virtually all agricultural programs on the negotiating table. I see this as good negotiation strategy. For the first time in several series of GATT talks, the U.S. has something other countries want us to get rid of --a market-oriented farm bill and trade enhancement programs that keep us competitive. I certainly can't see us getting rid of them unilaterally.

Secretary Lyng and Ambassador Yeutter have assured us that U.S. programs will not be eliminated unilaterally --rather, that the proposal must be accepted and implemented multilaterally. We would not support such negotiations unless this were true.

As has been apparent from the start, this round of GATT negotiations will be tough and complicated. Yet, while barely begun, it is my feeling that this round of talks has made more progress in agriculture than any previous fully completed Round. Although the Japanese remain silent, working proposals are already on the table from a number of key players.

It is essential that everyone understand that the GATT talks represent a cross-road in world agricultural trade. They can result in worldwide subsidy business-as-usual, or in positive movement toward freer trade and more open markets.

Let's reflect a bit about how things used to be...

Life on the farm, or anywhere else, is very different now than it was just 15 or 25 years ago. In this light, consider the many changes that have taken place since 1947 --in the 40 years since the first "Geneva" Round of GATT.

Transportation and communications were not so efficient then. Trade in most intangibles had yet to be considered; "software" referred to clothing, not computers; lots of Third-World countries were not yet on the map. And, farm problems had low priority.

I recite this to remind all of us how things change and of the extreme importance of getting things right now.

What happens in this Uruguay Round of GATT may well be with us for the next quarter-century, or much longer.

American agriculture, European agriculture --and to a degree, world agriculture, has been in a trying period of reexamination and restructuring. Hopefully, wisdom gained from this self-examination will be reflected in this round of GATT.

At issue is nothing less than the shaping of a rational, viable, competitive and profitable world food production and distribution system.

I have appreciated visiting with you and providing this perspective.

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MEETING TRADE CHALLENGES: AGRIBUSINESS PERSPECTIVE

Mr. C. M. Harper
Chairman/CEO - ConAgra, Inc.

ConAgra competes in all phases of agriculture, from selling inputs to farmers, processing raw products, trading commodities here and abroad, and selling retail consumer products. This gives us the perspective of hands on experience with agriculture over a wide spectrum. We have both observed and been a part of the dramatic changes that farming and agribusiness have undergone during the last two decades, largely as a result of trade developments. First there was the rapid buildup of agriculture during the 1970's. Demand grew very rapidly in response to increased Soviet needs and sharp growth in world income. Land in the U.S. was able to be mobilized quickly to increase production to respond to strong demand. Agribusiness devoted substantial resources to add capacity in response to farmers' growing needs for inputs. Transportation, processing and export capacity grew in order to handle increased supplies of grain. Agriculture and agribusiness, in the process, became much more global in scope, and more vulnerable to global agricultural and economic influences. This became painfully apparent during the deflationary 1980's and downsizing of U.S. agriculture. Foreign production was expanding rapidly and, at the same time, demand leveled off and declined, causing considerable excess capacity in world agriculture. The U.S. downward adjustment to this overcapacity was magnified by an agricultural policy that was very slow in recognizing the new realities of global markets.

U.S. farmers are now idling nearly 70 million acres, many of which are the most productive in the world. Input sales have fallen off sharply. With less acres under cultivation, farmers are using cash flow to pay down debt, rather than purchasing inputs. For example, sales of manufactured inputs are down nearly 30% from the peak, led by an approximate 40% decline in fertilizer sales. Exports fell to below 50% of our port capacity. Layoffs and plant closings have led to a rapid consolidation in input and processing industries. Many agricultural processing businesses have been adversely affected because exports of broilers, flour, soybean products, meat and other value added products have fallen sharply due to very highly subsidized sales of these products by many of our foreign competitors.

Drawing from the conclusions of the National Commission on Agricultural Trade and Export Policy, on which I recently served, the deterioration in U.S. agricultural exports "is sending a danger signal to the U.S. economy for those with the foresight to listen. This serious trend not only threatens agriculture. It means a loss of jobs to Americans in a wide array of industries. It spells economic hardship for many businesses in both rural and urban America. It contributes to the deterioration of our national balance of payments. It undermines political and diplomatic relations with our nation's leading allies. It threatens the solidarity of agricultural interests at home. It places in question our ability -- and our resolve -- to compete effectively in an ever more inter-dependent world economy."

In retrospect, the downsizing of United States agriculture was more severe than was needed. Agricultural policies designed for continued inflation and designed primarily for a domestic agricultural system kept the U.S. from competitively pricing our products in the world markets. Artificially high prices also stimulated a rapid growth in foreign agricultural production. We were the price umbrella for the world. Our market share of grain exports subsequently fell by a third, as others subsidized heavily, or rushed in to sell just below the U.S. price umbrella.

Well, that umbrella has finally been removed and the U.S. is open for business again. Congress and the Administration took stock of the tremendous investment America has made in U.S. agriculture, and the jobs at stake in an industry that is responsible for over 20% of the employment in the U.S. We spent decades in building the most efficient agricultural system in the world in terms of production, transportation, processing, and retailing of farm produce. No other country in the world can consistently deliver the quality and variety of food more efficiently to consumers at home or abroad than can U.S. farmers and agribusiness food systems. And we continually get better at it.

Farmers are rapidly cutting costs. They are using fertilizer and crop protection chemicals more effectively and safely. They are utilizing newer, more efficient minimum tillage farming systems, resulting in lower per unit costs. And farmers are rapidly paying down debt-over a 25% reduction since 1982. They have managed to achieve back-to-back years of record farm income, despite all the problems we read about in agriculture.

Agribusiness continues to find ways to do a lot of little things more efficiently, which results in low cost, processing, distribution and retailing systems.

In 1985, Congress and the Administration removed many of the barriers to pricing competitively. The competitive environment

has improved with a more reasonably priced dollar and a substantial \$70 billion improvement in the budget deficit. Let us hope the reduction will continue into the future.

Demand has responded favorably to these developments. World grain consumption has grown nearly as much the last two years as it did the previous seven years. World grain trade has bounced back about 8% from the lows of 1985/86. U.S. exports have recovered even more sharply. Wheat exports in 1987/88 should be up about 50% from the lows, corn exports up nearly 30%, and soybean exports up 25%. The U.S. share of world grain trade, while still unsatisfactory, should increase to about 46% this year compared with the dismal 36.5% in 1985/86. However, this is still well below the 55.5% market share we held for the five years 1978-1982. Thus, it would appear that U.S. agricultural trade is headed the right direction again, but we still have a lot of work ahead of us to climb back over a 50% share again.

The primary reason for the export progress, again, has been competitive pricing. We must market the products that farmers produce, primarily commodities. Price, quality, and delivery systems are the key competitive tools. The U.S. could not meet the world price until last year and lost substantial business. Now we are getting some of it back.

Predictably, the U.S. is receiving much criticism from the rest of the world for meeting world price. However, the U.S. did not get any thanks in the early 1980's when we were providing the world price umbrella; instead our competitors increased production, undercut U.S. prices, and took our markets. I can not blame them. They were reacting to price incentives. We would have reacted the same way if the shoe were on the other foot. However, the knife cuts both ways, and the pendulum is swinging our direction again.

This points out the major challenges that lie ahead of us. Virtually all countries subsidize their domestic agriculture in some form; some countries more than others. This creates tremendous friction in agricultural trade. The U.S. is embroiled in a major subsidy war with the EEC and others. The U.S. did not start the war, but is committed to stay the course and stay competitive. Our years of investment in building a large, efficient agricultural system requires that we not forfeit market share, particularly to less efficient producers. The U.S. Government is intent on giving our farmers fair access to the world market. We are of one mind on this, here in the U.S.

At the moment, the subsidy war is still heating up. The EEC paid out about \$8.5 billion in direct export subsidies last year. This was up sharply from \$6.6 billion in 1985 and less than \$5 billion in 1984. The EEC wheat subsidy, for example, was \$3.77 per bushel in late October, which was greater than the value of

wheat itself in the world market. It has been estimated that it costs each non-farm family in the EC \$900 per year to support the Common Agricultural Policy, (including cost to the consumer from high price supports), several times the comparable U.S. subsidy level per family. On top of this, some have estimated that individual country export subsidies within the EEC total almost as much as the official CAP payments, bringing total direct export subsidies to \$14-16 billion. The U.S. has responded to these growing subsidies by the EC with its own Export Enhancement Program, but the \$1.3 billion spent on this program last year pales in comparison with the EC outlays mentioned above.

The EC and the U.S., however, are certainly not alone in subsidizing agriculture. Japan carefully supports rice, meat, and fruit and vegetable prices at several times the world price, which effectively limits demand growth for these food products. Brazil and Argentina subsidize the export of value-added agricultural products while Canada uses various forms of transportation and farmer payments to subsidize agriculture.

Trade distortions also result from import barriers, as well as export subsidies. Meat trade, particularly red meat, is encumbered by a host of health and plant inspection requirements, quotas, tariffs and other barriers by nearly every importer to protect their own producers. In some cases the situation is worsening, exemplified by the EEC proposed ban on hormones in meat, which would effectively eliminate all U.S. beef imports to them. This could result in an escalation of reprisals that could eliminate virtually all meat trade between the two entities. How can Japan justify \$20-\$40 per pound beef to its consumers, when abundant supplies are available in the world at less than a quarter of that price? Korea and Taiwan have tight restrictions on imports as well.

This intervention in agriculture tends to create substantial friction among trading partners in an increasing global agricultural system. High internal price supports tend to cause imbalances in the supply and demand for agricultural products. High prices encourage excess production, discourage increases in consumption and tend to depress the world price of commodities as surpluses are subsidized and dumped on world markets. Many of these subsidies or price supports are enacted for social goals to increase the welfare of farmers and maintain rural populations in farming. These may be very worthy goals. However, the enactment of differing levels of price supports around the world cause resources to be distributed very inefficiently. There must be better ways of developing farm policy.

The upcoming GATT talks in Geneva represent a great opportunity to mutually change agricultural policies by phasing down subsidies and price supports. Surely, friends can negotiate mutually acceptable policies for producing and trading

agricultural products in ways that are beneficial to all involved. Reduction of price supports and trade barriers does not spell disaster for our respective farmers. Rather, production will seek a level that provides a profit for producers, and greatly expands the demand base as countries can upgrade their diets. In those instances where the market will not support the rural structures desired by participating countries, ways can surely be found to provide acceptable income levels other than supporting prices above market levels and encouraging inefficient production. Decoupling, or making direct income support payments to farmers in lieu of price supports and separate from production decisions, is one method that has been discussed to achieve more market orientation. We understand our European friends are resisting this concept. However, rapidly escalating farm program costs may provide incentives for all of us to find ways to work together to shape innovative solutions to the problem. Coordinating and enhancing food aid programs is another area to be explored. These alternatives have to be preferred to the practices of increasing subsidies, increasing surpluses and increasing protectionism where no one benefits.

GATT participants showed a great deal of courage by tabling their domestic agricultural policies to be included in the negotiations. This is the first time member countries have agreed to negotiate all of the government programs that might affect agricultural trade or limit access to markets. Perhaps member countries realize that all of the international trade is at risk if solutions are not found to agricultural trade frictions. Member countries may also realize that major changes in agricultural policies are not likely to be made unilaterally or even bilaterally. If all major agricultural producers, exporters, and importers alike are involved in the process together, real solutions may evolve. Finally, the cost of agricultural programs has increased substantially in the world, probably totaling well over \$150 billion annually, including costs to the consumer. These costs could well escalate as biotechnology and other technologies increase productivity and lower costs of production. The old GATT rules are simply inadequate to deal with the technology of the 1990's, or even the 1980's, and the realities of the world market today. Reforms are crucial for a workable trading system. Let us hope that agreement can be reached, and relatively quickly. One can view the upcoming GATT round as a great opportunity for real progress, or a series of insurmountable problems. Viewed positively it represents an opportunity to de-escalate the absurd subsidy war, provide a better standard of living, and expansion of agricultural trade. Let's go for it.

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AGRICULTURE AND THE URUGUAY ROUND: AN UNPRECEDENTED OPPORTUNITY

Carol Brookins

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The U.S. negotiating proposal for the new trade round calls for the elimination over a ten year period of all subsidies and protection to agriculture that affect production and trade. This sweeping proposal has received tremendous attention and mixed reviews. One skeptic recently described the proposal in terms of a second marriage--"the triumph of hope over experience."

I disagree. I believe the U.S. proposal is to the contrary, the triumph of experience. The history of agriculture in multilateral trade negotiations shows clearly that agricultural trade liberalization has not advanced substantially in the past 35 years. Additionally, agricultural subsidies have advanced substantially in recent years, and have imposed increasing burdens on foreign trade.

In my remarks today, I will discuss briefly the history of trade negotiations, the current negotiating environment and the prospects for the Uruguay Round in agriculture.

1. The history of multilateral trade negotiations reflects tremendous opposition to liberalization of agricultural trade regimes. This was led by both the U.S. opposition to relinquishing its Section 22 import protection, and the European Community's (ECs) defense of its internal market protection under the Common Agricultural Policy (CAP).

Through the Kennedy Round (1963-67), the conflict between the U.S. and EC was not yet apparent, because the Community was a large net importer of agricultural products and it was not a factor in export markets. Agricultural negotiations during the Tokyo Round (1973-79) took place in an atmosphere of rising prices, supply concerns and dynamic trade expansion. In fact, grain negotiations in the Tokyo Round were centered on a proposal for a new international wheat reserve--a proposal which failed because accord could not be reached on the size of the reserve, relative shares, the trigger price for stocks release and food aid.

In other words, during the Tokyo Round, the world was not really concerned about trade expansion; trade expansion was taking care of itself in the inflated demand growth of the decade.

You can't really blame agricultural trade negotiators for not getting more in the Tokyo Round; they did about as much as was politically feasible at the time on both sides of the Atlantic. There was no real pressure for major liberalization. The U.S. was not willing to make any significant concessions, the European Community would not even consider discussion of its Common Agricultural Policy, and other exporting countries were doing well enough in the marketplace that they did not push the two agricultural trade giants into real trade reform.

Essentially, agricultural trade negotiations have never had tremendous past success for two main reasons. First, because the U.S. was never willing to give up very much in the early rounds. And, second, because the negotiating process of making offers/requests on individual commodities in itself presented minimal results. Everyone tended to request the moon and offer little in return; the result in most cases was minimal gain.

Perhaps the agricultural sector can learn a bit from the experience of negotiators on the industrial side. The Dillon Round of the MTN (1960-62) was the last round where industry was negotiated on a request/offer basis. The results were so minimal and economic situation so constrained that trading partners started to look for a new process. As a result, the French came up with the idea of an across-the-board reduction in tariffs based on a formula. The U.S. didn't like the formula proposed, but accepted the concept of across the board cuts. This approach became the slogan for the Kennedy Round--50 percent (tariff cuts) across the board with no exceptions--and led to major reductions in industrial tariff barriers.

11. The proposals put forward in the past year by the U.S.--and other major trading partners--for agriculture in the Uruguay Round have a similar element in that they contain the concept of developing an aggregate measurement to use in negotiations rather than commodity-specific request/offers. This is progress in itself.

Why did this come about? The answer is simple: everyone is in trouble today. Consensus for agricultural reform was spawned by the effects of global recession on world agricultural markets beginning in 1982. Following the dynamic growth in global farm trade during the previous decade, demand growth for agricultural products contracted at a time when production and stocks continued to expand, propelled by generous domestic price and production support policies.

The U.S. suffered the greatest adjustment in its agricultural sector from 1982-86 because its very high price supports and acreage reduction policy in cereals and oilseeds provided a production- incentive price umbrella to other exporters. Additionally, the over-valued dollar substantially cut American farm exports.

The U.S. absorbed the pain for four years, and then this hit the rest of the world in 1986 because the U.S. changed its policies. When the U.S. Congress and Administration enacted the 1985 Food Security Act, they were essentially saying "We're mad and we're not going to take it any more." It is very clear that the policies the U.S. implemented under the 1985 Act are largely responsible for the willingness of other nations to come to the bargaining table today. Provisions designed to restore U.S. competitiveness in world markets have substantially raised costs to other producing and exporting nations.

What the U.S. did essentially was to shift its policy from providing a subsidy to its foreign competitors to providing a subsidy to its foreign customers. An escalating agricultural trade war has ensued, largely between the U.S. and EC. Federal subsidies are determining selling price and market share, and all the other trading nations are caught in the crossfire.

Given the costs of the current programs, and the macro-economic situation, the negotiating environment has changed dramatically from that during the Tokyo Round in the 1970s. Agriculture is now at the center of the new GATT round. There are a number of distinctions that can be drawn between the agricultural position in the Tokyo Round and Uruguay Round.

First, the U.S. was the primary demandeur for changes in agricultural trade policies in the Tokyo Round. Everyone else liked the status quo. Today no one likes the status quo.

Second, both the U.S. and EC put their domestic support programs essentially "off limits" during the Tokyo Round. Today everyone recognizes that domestic policies are the root cause of trade distortions and that they will be the basis of negotiations.

Third, costs of supporting agriculture, trade conflicts and foreign policy concerns from agriculture were minimal in the 1970s; agriculture was not the key issue on the Tokyo Round agenda. Today the costs have risen so much on so many fronts that agriculture is one of the major sectors targeted for reform by leaders of the industrial and developed world.

The U.S. is taking action on agriculture trade, and for the first time, these trade actions enjoy support throughout the Cabinet and in the White House, without the Agriculture Secretary having to fight every step of the way. Congress is bipartisan on the issue of gaining agricultural trade gains. Why? Because the agricultural trade crisis of the past several years has forced politicians to act.

Agriculture is at the center of GATT negotiations because agricultural policies are creating unsustainable national budget costs in the U.S., Europe and Japan. Agricultural trade conflicts are threatening the Atlantic Alliance, and seriously eroding support for maintaining open markets for Japanese goods in the U.S.

Pressures for reform are increasing throughout the world. A few years ago people were questioning whether there was even a need for reform. The question today is not whether there will be reforms, but how they will be developed, how far they will go, and how fast they can be implemented.

In the U.S., the level of farm program costs and the need to reduce the federal deficit has put agricultural programs on the firing line for major spending cuts. Additionally, the public focus has begun to shift from focus on the poor farmer to the excessive level of support given to the farm sector.

In Europe and Japan, the trade conflict with the U.S. in agriculture has led to widening divisions between the farm and industrial sectors. Industrial interests see the agricultural conflict as a problem in managing their overall trade relations with the U.S. Important industry associations are now calling for reform, both by reducing support to the farm sector and lowering agricultural trade barriers.

While their farm lobbies remain extremely powerful, they are facing increasing obstacles. Farm organizations are on the defensive; their strategies today are not to try to get more, but to deter as long as possible the cuts in price and market protection that have been locked into the system for more than thirty years.

Pressures to reform in Japan are also being pushed by the internal cost of agricultural support due to the rice surplus. Moreover, the land price explosion will result in government efforts to bring more farm land in urban

areas into residential and industrial use. Proposed changes in farm land tax policy and other agricultural program reforms are expected to be introduced into the Diet next year.

European farmers are declining as a share of the population, and the Community is working toward its goal of reducing all barriers to internal trade by 1992. As this evolution of the Community occurs, the agricultural sector will no longer be the "only child" of the EC; farm interests will no longer be able to say that it is only the CAP which is holding Europe together. Other economic sectors will be demanding resources from Brussels. The CAP is facing its most severe test. Costs are unsustainable and the Commission is trying to work out internal reforms in line with a GATT agreement on burden sharing.

III. It is obvious from what has taken place over the past year that the time is ripe for negotiations. During the last trade round, it took more than four years after the start of the round before agricultural negotiations actually began. Today, barely one year after the start of the Uruguay Round all of the leading players--except Japan--have tabled their negotiating proposals, and many of them believe that progress is possible before 1990.

Despite some unattractive elements in the EC proposal, the fact that the EC actually came up with its proposal for the October meeting of the negotiating committee in Geneva is very important. Everyone had expected the EC to stall until the end of the year; instead, the EC appears ready to move into substantive negotiations.

The U.S. negotiating proposal--and the other major proposals submitted by the EC, the Cairns Group and Canada--all have taken a lesson from the industrial approach. The basis is to build a measurement which reflects trade and production related subsidies and import protection, including not only direct government outlays, but the costs paid by consumers in higher food prices. It is this measurement--this basket of agricultural supports which could be viewed as a type of "super tariff" on agricultural trade--that negotiators will use in determining commitments to phased cuts support.

Whether you believe or not that there will be agreement on a total, 100 percent, rollback, it is obvious from all the major proposals that the U.S. has come up with the right idea at the right time for these negotiations in agriculture. The direction is clearly away from individual commodity negotiations which have more often than not produced increasing distortions between commodities and within the world trading system. The aggregate, formula approach is gaining acceptance among negotiators.

Obviously, any commitments reached to scale back supports and import barriers will fall back into actions on specific commodities. However, the proposals before negotiators today importantly would give each country the flexibility to determine how it will meet its GATT commitment, based on its own system and priorities. This technique permits us to build bridges between very different national systems in order to expand trade opportunities globally.

I don't expect the EC or Japan to totally open up its market in this round; nor do I expect the U.S. to ultimately tear down all its barriers. But I think we are not unrealistic if we believe that there can be substantial progress in gaining greater access to markets, restraining export subsidization, and reducing domestic production and price supports.

All of our countries will continue to support agriculture in one way or another. What we are negotiating in the Uruguay Round is the level of that support, the way it is given and the competitiveness of global agriculture.

The chances for success are very good if you consider the level of discomfort in the world trading system today as a yardstick. It is basic human nature. People don't give up anything when they don't have to. It isn't until the costs outweigh the benefits of policies that people begin to change the way they operate. The U.S. Food Security Act of 1985 has made the cost of many countries' trading behavior sufficiently high to prompt them to consider changing their policies. A trade war does not threaten negotiations; it is the catalyst driving negotiations.

However, there are some immediate dangers ahead that could reduce negotiating momentum and threaten progress in reaching meaningful reforms.

First, the U.S. may be cutting its production too much right now and unilaterally disarming. If there are crop problems in the world, resulting in large stock drawdown, higher prices and bullish export markets, the success potential for negotiations will fall. Remember that agricultural interests are the last to agree to reform. Finance, budget, trade and foreign policy officials are the key players pressing for agricultural reform in Europe and Japan. If the crisis they see today in spending and trade diminishes, the opportunity for true structural reform will be lost.

Second, if negotiations do not move forward expeditiously, the will to reform in the MTN will diminish among U.S. farm and commodity groups who today support the negotiation. Due to U.S. policies, farm program costs are falling, exports are rising and "temporary" programs like certificates, Export Enhancement (EEP) and marketing loans are bringing back prosperity to much of American agriculture.

These temporary programs could well become institutionalized, and commodity and ag interest groups could decide they have a better deal today than they would by giving any concessions in the trade round.

We may have the greatest opportunity in recent history to move ahead with substantive reform of agricultural policies if we have the will to escalate the current trade war. Some people say we need a cease fire to create the right environment for negotiations. I disagree. We must continue to raise the costs of these policies to levels that are unmanageable and unsustainable to all the players--including the U.S. This is a high risk strategy, I know. But the greater risk is that we won't get anything done in this current round, and that we will build in an even higher layer of distortions in our economies, increase government management of markets and reduce global trade and income growth.

In contrast, if we can turn this political will to negotiate into action, it will provide an unprecedented opportunity to liberalize agricultural trade, to make the global agricultural economy more rational, and provide a stimulus to economic growth well into the next century.

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INTERNATIONAL TRADE CHALLENGES AND U.S. AGRICULTURE*

Moderator: Alan Tracy, Special Assistant to the President
for Agricultural Trade and Food Assistance

Panelists: Thomas O. Kay, Administrator, Foreign Agricultural Service
Aart de Zeeuw, Chairman, GATT Committee on Agriculture
Dean Kleckner, President, American Farm Bureau Federation
Charles "Mike" Harper, Chairman and CEO, ConAgra, Inc.
Carol Brookins, President, World Perspectives, Inc.

MR. TRACY: I will take advantage of the opportunity of moderating this session to ask the first question of my good friend, Mr. Kay, who, in his presentation, made what I think was a Freudian slip. He referred to the Export Enhancement Program as a traditional, rather than as a transitional program. And rather than ask bluntly which it is, I'll ask more broadly what he views as the future of the Export Enhancement Program, given that it is relevant to, and has been described as one of the tools that has moved the world towards the situation of being willing to consider negotiations.

MR. KAY: Alan, there's no question that the EEP is a transitional tool. The problem is always that there are those who would like to make transitional tools permanent and traditional. As you know, when the EEP was first begun by this administration back in 1985, the premise was that we would continue the program for a period of three years. And then later in the farm bill, it was mandated that we carry out the proposal -- or the EEP -- for three years, for fiscal years '86, '87, and '88. We, of course, are in that third year. In the trade legislation that presently lies before the House, we are required to continue the program through 1990. There is no question that EEP has served its purpose well, particularly in the wheat area. Right now, about 55 percent of our wheat that moves out of this country goes out under the EEP. But our hope is that by the end of 1988, we will have seen sufficient progress in the negotiations, in late '88 and early 1989; that neither the United States or any other exporter will have to rely on subsidies to export its commodities.

That may be an optimistic viewpoint, but we still look upon the EEP as a temporary tool. And what its life might be beyond 1988, certainly none of us can say at this point in time. Right now, it is our intention to fulfill the program over the three-year period, unless the situation would demand that it be continued, or unless mandated by law.

MR. TRACY: Very diplomatically stated. Tom, do you have a question for one of the other panelists at this point?

*Based on a transcript.

MR. KAY: Let me ask my good friend Aart de Zeeuw a question. He knew I wouldn't let him get by about his fixed levy without asking something about that.

Aart, do I understand that the levy would be fixed in relationship to so-called world prices, and the costs of production in various countries? Is that the way it's figured? If so, what would be the effect of fixed levies on export subsidies, or would there continue to be export levies or export subsidies under your proposal?

MR. DE ZEEUW: That's a good question, Tom, because I was thinking many times about what I really do mean by fixed levy. But let me give you an example. I never think of a fixed levy of more than, let me say, 30 or 40 percent, never. And so relating the levy to the cost price is very dangerous. But let me give the European Community as an example, because I know the Community quite well.

On cereals, if the Community wanted to start a fixed levy, in my view it's not necessary to go above 20 or 25 percent. But you have to negotiate it, and the negotiation would not be on the basis of, for example, the protection you give to the German farmers somewhere in Bavaria. They would be based, of course, more on Paris or the United Kingdom. By doing that, you would have a low fixed levy and the other possibility to help the income position of farmers by the direct income support.

So it's not replacing the direct income support, it is a possibility -- and I don't say it's the possibility -- a possibility to allow countries not to show up in the budget completely for the income support, but also have part of the cost paid by the consumers. And that is, in effect, what a fixed levy means.

If you have that fixed levy, a low, moderate fixed levy, then I think it's conceivable, but not compulsory, to have also an export subsidy. But it would never be more than the exact import levy, and also, it would not be paid by governments.

MR. TRACY: Aart, do you have a question for one of the other panelists now?

MR. DE ZEEUW: Yes, may I ask a question of Mike Harper? When I was listening to him, I wondered why he is always citing the bad actions of others and not of the United States? What he said of other countries in the world, I could have said for U.S. programs in dairy, sugar, peanuts, and so on. Why did you not choose to cite the U.S. as well?

MR. HARPER: My response is guilty. Could I make one small correction to my paper? I was reminded by a new-found friend that I'd made a misstatement when I said that the U.S. was the most efficient producer in the world. I must add the possible exception of Argentina. Did I fulfill my commitment?

MR. TRACY: Dean, do you have a question?

MR. KLECKNER: I had one for Aart de Zeeuw, but he's already been asked one. I have one for Carol.

Maybe to elaborate a little bit, Carol, did I hear you say that with regard to the retirement of land or perhaps another one of our programs, that we are disarming too fast? Do you say we are possibly on the verge of disarming too fast? Was that with regard to acres, or just how did you mean that?

MS. BROOKINS: Yes, Dean, I meant it in terms of acres. And I think that clearly the objective of our policies is to reduce budget costs, reduce surpluses, and reduce the role of government in the marketplace; and the only way to do that is to reduce those stocks that are in government warehouses. But I think that the danger is that we are unilaterally disarming. We are going to probably take 80 million acres out of production this year, which is a record amount of acreage.

We're producing, for '87 crops, less wheat, feed grains, cotton, rice, and soybeans than we are consuming.

And given other crop conditions in the world, and demand conditions, prices are going up, trade is expanding, and there is a great danger that if there are any other major crop problems in the world that we are going to find ourselves with a situation where we're trying to get people to reform and nobody is going to be interested because things have gotten appreciably better. So I'm very concerned about that. I think that I'd like to see us put a cap on our acreage retirement.

MR. TRACY: Mike?

MR. HARPER: Yes, I'd like to ask a question of Aart. In the coming GATT round, will you get into procedural matters such as how it takes six or seven years to try a case? Then, as I understand it, somebody is found guilty of an infraction and you pass a sentence, but the violator can veto the sentence. So it's a whole meaningless exercise most of the time. Will you get into those matters, and what's your position on that?

MR. DE ZEEUW: There is a special group in the GATT for dispute settlement. Until now in the GATT, dispute settlement has been based on a panel, which can conclude that a country has wrongly used a protection measure, but the country nevertheless can go on with it. So the GATT finding does not have legal status. But what the other country can do if that country will not accept the solution of a panel is that it can retaliate. The difficulty, in reality, is that sometimes countries cannot retaliate because they have nothing to retaliate on. And that is the reason why I personally think that we need to strengthen the dispute settlement process so that it is not easily possible to disregard the conclusion of a panel decision.

MR. HARPER: Will your group get into that?

MR. DE ZEEUW: No, not my group, but it will be, of course, very important to the total negotiations as to what the dispute settlement group achieves.

MR. TRACY: Carol, your opportunity for a question?

MS. BROOKINS: I'd like to ask Tom Kay a question, if I may. We've all been discussing the temporary measures or temporary initiatives like the EEP, and discussing the dangers of these becoming institutionalized. Are we already there? Is it possible that we've met the enemy and he is us? I mean, I don't know. Is this a possibility that we're already there, or is it something that you think can be turned turned back or down for multilateral concessions?

MR. KAY: I think it's always a danger, Carol, when you begin, quote unquote, temporary programs, that they can become institutionalized. People grow accustomed to them.

But I think we made it clear from the very beginning that these were temporary measures to remedy an intolerable situation, and I believe that there's a great deal of sentiment in the Congress and in the administration to view these as temporary-type programs that will, at the time expressed, be viewed as having served their purpose and served their purpose well, but that we don't need them anymore.

MR. TRACY: Okay. With that, we'll go to some of the questions from the audience. The first one is for Tom Kay.

This says, how will the EC's aggressive expansion of oilseed production affect 1988 soybean, oil, and meal exports? Would an EEP for soybeans be a likely response to EC, Argentine and Brazilian competition in third-country markets?

MR. KAY: Thanks. There's no question that oilseed production is steadily increasing in the European Community. Soybeans are increasing in Italy and, of course, rapeseed is coming on like gangbusters. There's a lot of oil in Greece. I don't foresee any great reduction in our exports into the EC in the year mentioned in the question, 1988. I think that there is, certainly, a possibility that over the period of time our exports will diminish, especially if the price within the EC continues to encourage production of oilseeds.

If the oil and fats tax were to be passed, there possibly would not be a reduction in our exports immediately, but over a period of time, I think you would see our exports gradually fade away, given the fact that our exports have already decreased by about 50 percent in proportion with the increase of 50 percent of production in the European Community.

The other side of the coin or the other part of the question is that we have not done EEPs for soybeans. We have done five for vegetable oil, much to Manuel Otera's chagrin. I see him looking at me down there. And as you know, one of the criteria for the EEP program is that we will not use the EEP against so-called non-subsidizers. Now, we have used the EEP against our friends in the European Community because of their subsidies -- not in retaliation, but as a matter of being competitive. To date, we have not used the EEP as a retaliatory tool. And I don't foresee that it would be used as a retaliatory tool.

I remember once when a proposal like that was made in the Trade Policy Review Group and it was voted that we would not use the EEP in retaliation. The question might

be moot if the trade bill passes. As you know, there's a provision in there that unless we make real progress in the MIN by 1990, we'd have a marketing loan for all commodities; in which case you certainly wouldn't need an EEP for soybeans.

MR. TRACY: Could I just quickly follow up? Even though you have to be careful here, and aim your EEP at the subsidizing exporters, isn't it inevitable that non-subsidizing exporters are affected?

MR. KAY: We always try to pattern our EEP's so that the historical exports of other countries that are looked upon as non-subsidizers are not undercut, and we have tried to tailor our programs and announcements to such a degree that we are not predatory in the world market. Others might think we are. I've heard one or two things from Australia and Canada and some others who might address us in predatory terms, but we do our best not to do that. And I think, in all fairness, we can say we have not.

MR. TRACY: We have a question for Mr. de Zeeuw from the audience. You have mentioned proposals presented by several developed countries like the U.S., EC, Japan, etc. Would you please shed some light on the proposed role of developing countries, in particular those with the largest agriculturally oriented populations?

MR. DE ZEEUW: I'm sorry, but I can't because there is not yet a proposal from the food-importing developing countries. But I expect that when the proposal does come, that it will focus on having an exception to other agricultural proposals because they want to develop their own agriculture behind a more protective border. That's what I expect, but I'm not sure.

May I use this moment to say the developing countries are, of course, split into two groups. One is the developing countries who are really exporting such as Argentina and Uruguay and Chile and Thailand. I think those countries have less of a right to say that they want an exception as a developing country. If you export, you take part in the international market, and that means, in my view, that you have to accept the rules of international competition.

But if countries are food-importing -- there are quite a few of them -- they want to continue the low food and low commodity prices because it's splendid to build up competitive power with low food prices if you want to take part in industrial competition, for instance. Still, I think there are also many of those countries who know that you can't go on putting your own agriculture in such a very bad position that it can't develop.

So I expect that when we really come to a better international market, a bigger international market which will be more stable and also bigger than it is now, that many food-importing countries also will choose a policy through which they can extend their own agricultural development and protection. And personally, I think that's the best way to do it. But there is a lot of discussion among the developing countries, and if you ask me if I expect them to have one position, I say no.

MR. TRACY: Okay, thank you. Dean, here are two related questions for you. One, you mentioned the importance of reducing federal entitlement spending. Does this attitude apply to the \$27 billion of taxpayers' money spent for U.S. farm programs in 1987? Second question: Is the Farm Bureau willing to support the further lowering of target prices, demonstrating that farmers have a genuine interest in helping to reduce the federal budget deficit?

MR. KLECKNER: I've got a real friend out there. Maybe it was two friends. Of course, the \$27 billion, or actually I guess it was \$25.8 billion, is going down. The high was reached in '86. For 1987, the year just completed, the figure is probably a couple of billion dollars under that: \$22.9 billion, Mike Harper says, which is down \$3 billion from the \$25.8 billion. The figure is projected down again for '88 by another couple of billion, more or less, depending on whose figures you accept; and again more of a reduction in '89.

It's still high. You can't argue that point, that it's still, I believe, probably going to be unacceptably high for a long period of time. I don't think America's taxpayers will accept that figure. Perhaps they will because, as somebody said, things get institutionalized, and maybe that figure is becoming institutionalized. But I think the pressure on the budget will not allow even maybe an \$18 billion, \$17 billion figure in '89 to be unchallenged. We are for trying to reduce that spending for agriculture, getting more toward a market-oriented, market-related system; market driven; export oriented. And that will or may mean less government payments.

Regarding the target price reduction, we supported the '85 farm bill which has the minimal target price reductions in it of 2 percent in '88; another 2 or 3 percent in '89. The direction is proper, and that's downward on target prices. I want to be careful now in what I'm saying. The compromise budget proposal that was worked out a week ago Friday of a \$900 million cut in agriculture comes on top of the cuts or the downward trend which we in agriculture say we ought to be given credit for in some way. I mean, you take a cut on top of the downward trend or below the downward trend that's already there; \$900 million.

And we've understood that one of the items being talked about was a further 2 percent reduction or so in target prices. I don't think that's been decided yet for sure. It'll be that or a number of other things that are being talked about, providing that atrocious budget compromise gets approved by a weak-backed Congress. I have described them as having the backbone of a wet noodle to agree to such a thing. But even if it doesn't, then we go to Gramm-Rudman or probably, I think, something else. I think there will be another alternative if indeed the budget compromise is defeated.

Again, I don't know exactly what the questioner meant, but we did support -- do support -- the '85 farm bill, which includes a lowering of the target prices. And let me tell you, we have some members of Farm Bureau and there are some farmers around the country that don't think that anybody, or any farm organization, ought to accept any lowering of target prices or any lowering of prices of any kind. I just think they're wrong. And, in fact, in my view, the majority of farmers, if they went into a booth and closed the curtain and voted, would accept a lowering of target prices in some modest degree as our part of trying to get a true budget and a spending reduction across the board.

MR. TRACY: Dean, there's a question here that follows up on one of your comments. Would the Farm Bureau prefer Gramm-Rudman to the current budget agreement if the choice were solely between the two?

MR. KLECKNER: Yes, I'm going to have a press conference tomorrow at 1:30 in which I'm going to lambast the compromise. The President agreed to it, obviously, administration, as well as both parties of Congress. And I'm expecting that question to be one of the first ones the press will ask because it's a reasonable question.

And the answer is no. They're both terrible solutions. And right now the perception or the feeling is that if the budget compromise is defeated, then we go to Gramm-Rudman and that's it forever, amen. I don't think that's true. I think the pressure can be put on Congress to come back and come up with another solution which we think, again, is an across-the-board budget freeze at '87 levels. Nobody gets cut, you're just frozen at '87. There may be some other possibilities. They're both terrible. It's just like which is better, the frying pan or the fire; and it's neither one. Could I say one other quick thing, Alan?

MR. TRACY: Yes, sir.

MR. KLECKNER: I want to mention the administration's proposal to eliminate all subsidies, in essence, by 10 years to the year 2000. Many people, including many farmers, look somewhat askance at that because I think we farmers -- and let me speak as a farmer on this one -- tend to think that's going to happen overnight or next year or two and be unilateral; that we're going to do it. And we've made it clear that it's not going to be unilateral. The administration has made it clear on that. It's not going to happen. But 10 years or 12 to the year 2,000 is forever. We've had GATT for 40 years, and this is the eighth round that we're into right now. So it has been every five or six years we've had another GATT round.

By the year 2000, we will have concluded this one, had one more, and be in a third one, if the present or the past system and timetable prevails. And with everybody speeding everything up, I would think that we would be in a third GATT after the Uruguay Round. I mean, the Uruguay Round, one more, and the third one by the time the year 2000 comes. And I wouldn't want to bet my farm, and I wouldn't suggest the rest of you bet your house, that by another one or two or the third GATT round, that there won't be something like this that will actually have taken place.

MR. TRACY: Very good.

Mike, there are several questions here about Canada to several of the panel participants, but I'm going to throw it to you. One specifically, does ConAgra believe that congressional approval of the U.S.-Canada free trade accord would enhance exports of processed foods to Canada, and what do you think the overall impact on trade in both directions would be of that proposal?

MR. HARPER: We've not studied the impact in detail. It's an obvious move towards free trade, and we support that. It'll hurt some of our businesses and it'll help some of our businesses.

MR. TRACY: Does anybody else want to jump in on this one? I think we ought to start doing that, too.

MR. KLECKNER: Let me just say that Farm Bureau is supporting passage of the Canada-U.S. free trade agreement. I think that's a misnomer. It ought to be called a trade agreement because it's not quite free trade, but it's a movement toward it. But we think it's good and proper and sends a right signal to the world now, in the context of the GATT negotiations, that two large trading partners with the longest unguarded border in the world can get along and make some concessions toward each other.

Frankly, some of agriculture, some of U.S. agriculture, some commodities will lose under this, and Canada will have some that will lose also. But I predict nit-picking will start and people will then look at the agreement on the basis of how it affects them and their commodity. The nit-picking will start and we then have a chance in the U.S. of not approving it, and I would predict Canada also will be nit-picking. That's human nature. My hope is and my judgment is that good sense and good judgment will prevail and we will have that trade agreement signed.

MR. TRACY: One question is what percentage of the drop in U.S. farm exports is due to the new self-sufficiency of many Third World nations? The other question concerns some developed countries which have problems of surpluses, probably produced with subsidies. On the other hand, there are poorer countries with problems of hunger. Instead of food aid year after year, why not have the developed countries help those poorer countries to stand on their own feet and then make them our trading partners?

Ms. BROOKINS: Well, I can't give a specific percentage, Alan, about what share of U.S. trade is lost due to the developing countries increasing their self-sufficiency. I think self-sufficiency is hogwash, very frankly. And I think the World Bank is moving in that direction. I wouldn't want to quote the World Bank, but I think that a lot of countries that claim self-sufficiency have people who are going hungry. They are choosing to say that they're self-sufficient because the government has decided that they are maintaining a level of imports that they want to maintain and basically don't have food riots in the street and people aren't just starving in hordes. In fact, there are countries exporting food today who have caloric intake of their population which is well below minimal nutritional standards.

So I don't think the question is self-sufficiency. I think it's a question that people haven't had money and they've chosen then not to expand their imports. Economic growth has slowed down because of the debt crisis, and because of lower industrial-country growth as well. What the debt crisis has told us is that we're all in this together. And very frankly, I think that only as the developing countries begin real self-sustained growth will we see agriculture blossoming in terms of agricultural trade in the world, because it is a circular flow. And there will be some products that we will export more to developing countries, and some products that we will export less and we will import more from those countries.

I couldn't quite understand the thrust of the second question.

MR. TRACY: Well, I think it's a theme that we've talked about frequently, about helping countries to broadly develop in order to raise them to a point where they can become commercial trading partners.

MS. BROOKINS: I think that is the best idea going. This is what my advisory committee recommended to the National Security Council, National Security Advisor and the Under Secretary of State in terms of providing programs that give sustained economic development through private sector development because the private sector is the most efficient user of capital in any economy.

I think there is a role, though, for food aid in that. If we don't have money to give these countries, and we do have food, that there's no reason why we can't be looking at possibilities of utilizing food, perhaps under a World Bank program whereby countries who have surpluses would pledge food, and that could be moved into certain countries. And I know that the Minister of Agriculture in France has come up with a plan which has some aspects of this, and I believe that the -- Lord Plumb, who is president of the European Parliament, has come up with a similar proposal, and I know that our Food for Progress Program, which is currently being implemented by the Department of Agriculture, is, in fact, designed to try to stimulate economic development in Third World countries.

And maybe as part of our interim, Mr. de Zeeuw, we could all get together and look at how we can use some of these stocks in a way that would be useful and stimulate economic development in some of the countries.

MR. TRACY: Very good, Carol.

Mr. Kleckner referred to some types of proposals of dividing up the pies as just being a way to just make a smaller pie. I think the best way to make a bigger pie is through development of Third World nations. And I personally think the best way to foster that development is through GATT reform, coupled with meaningful domestic market oriented reforms. But you know, these themes do all tie back together in the end, and I think if we had something even close to the U.S. proposal in place, that total agricultural trade would be much, much larger 20 years from now than it would be without that in place. And U.S. farmers are in the best position to take advantage of that growth that we'd have.

MS. BROOKINS: Mr. Chairman, may I give you a plug? There was a very fine report that you completed for the President and the Congress on the growth prospects and agricultural trade --

MR. TRACY: No plugs allowed.

MS. BROOKINS: I don't know if any of you have read it out in the auditorium, but it is a really super piece of work delineating where growth markets are, what are the types of things that are needed. And there are a number of themes that we've just talked about that recur many times throughout.

MR. TRACY: Thank you. We have a couple of good questions here regarding 0/92. And I think there's enough interest and, I think, some divergency of views that I think we'll just open this one up, but the question's along the lines of whether

0/92 is a good policy for reducing overproduction, or is land diversion such as paid land diversion better? Does it have an impact on rural communities? Aart has been asked if Europe would adopt such a program. Is it just a way to reduce budget targets? There's a lot of opposition. If it is instituted, how can additional savings be achieved?

So I'd just like to toss it open and see who'd like to comment on the proposal that is being kicked around right now as perhaps part of the budget reconciliation process, and some that the Administration proposed late last winter.

MS. BROOKINS: Some people champion 0/92 as the first step toward decoupling, and other people tend to look at it as just another back-door way of acreage reduction to cut the budget deficit. It's both, I think. I personally think that 0/92 is, in the present environment, not really decoupling because it is tied to a specific commodity and it is a disincentive to produce -- well, it's an incentive not to produce that commodity.

I could favor 0/92 if it were part of an overall cap on acreage reduction in this country, if we did fix a cap and then instead of the acreage reduction program and the paid land diversion program, move to something like 0/92 and the conservation reserve program as our mechanisms to achieve those adjustments in production when the market does not warrant those additional supplies. But I think right now there's reason to support it from some aspects, but it's very frightening in terms of being another mechanism to take acreage out.

MR. TRACY: Other comments?

MR. DE ZEEUW: I guess also in Europe there's quite a lot of discussion on taking land out of production as a help to lower the surplus, but it is always defended by those members of the Community who do not like to lower the prices. And that is the difficulty in the discussions. If you take out land of production in order to lower production and to lower surpluses, it is, of course, possible. But if at the same time you keep the price high, the land price will be high. It will cost a lot of money to take the land out of production.

So I think you must be very careful in saying that taking land out of production in itself is not enough to lower production. I think that if you are not able to lower the prices, that you can't really have lower production. Then, of course, in a transitional period, you can also try to have a program to take land out of production.

But we have learned in Europe, from you, that it was not always a success in the past. Or let me say it this way, that not always did it have the effect you expected. And I think we need a lot more discussion to know exactly how taking land out of production must be combined with other measures to really lower the surplus position. It can never be an excuse to keep high prices when then you keep on isolating markets.

MR. TRACY: Mike, I know that your company is involved not only on the processing side but in some cases on the supply side, to farmers. Do you have an opinion about the 0/92 proposal?

MR. HARPER: I've been opposed to 0/92 because I felt it would result in further reduction in acreage. And I sort of like Carol's notion; if we had a cap on the number of acres that came out of production, it could make some sense.

MR. TRACY: Dean?

MR. KLECKNER: That's a really tough one for us to get a handle on in Farm Bureau. We have tremendous amount of discussion on it, pro and con, because farmers themselves are divided on the issue. Our board adopted, after much discussion -- I think it was at our summer board meeting -- a position that we would favor 0/92, currently, as a budget measure because we thought it was preferable to some other things that were being talked about to hold budget spending or hold agricultural spending.

It's preferable, for example, to freezing loan rates, which is being talked about. It's still being talked about. What a horrible signal to send to the world that the U.S. is going to freeze or raise loan rates to lower the differential payments, the target price payments. Because that's strictly sending the wrong signal at the wrong time. It's lousy. So 0/92 is preferable to that, plus some other things.

Frankly, we're not sure what we think about it and I wish I did know. We've got a convention coming up in January and I think we'll have a position on 0/92 by the middle of January, but right now, that's just where it is, Mr. Chairman.

MR. TRACY: Thank you.

I think we'll move on with a question for Tom Kay. It says, what happens to the U.S. export picture when the surpluses are diminished to the point where they're minimal, EEP is no longer viable, therefore, and we still have grains too expensive to compete in world markets?

I surprised him with this one.

MR. KAY: It's my hope that, in this period we find ourselves in now where supplies have tightened around the world, we'll take advantage of it. I believe that we have a great opportunity now in this country to draw down stocks like they've never been drawn down before, and to get our stocks under control. Stocks of 40 million metric tons of wheat are completely unmanageable. We've always, at the Department of Agriculture, looked at 20 million metric tons as being manageable, if that. So I do think, first of all, we have an opportunity to draw down the stocks.

Secondly, I think you have to take into consideration that if excessive stocks are drawn down, that production can come back in line with demand. If we can ever get out of this mess we're in, I don't think we have to talk about 0/92 or ARPs, because I think American farmers love nothing more than to produce. We saw that in the 1970's. I think that would be supported by agribusiness, not only by the producers.

So my feeling is that if we draw down our stocks, which I think is the best thing we could ever do for the American farmer, in doing so we would allow prices on the international market to rise so that our own producers would be able to be competitive without any subsidies. We did that for a long period of time and we can do it again. But as long as stocks overhang the market and there's been this excess supply and dormant demand because of economic conditions that Carol has referred to, we'll have that situation.

I foresee and believe that with the drawing-down of the stocks, with the increase in international prices, with some order and discipline that will come in other producing countries, that we will be able to export competitively at higher prices because I believe the supply and demand situation will adjust the irregularities that we've known in the past few years.

MR. HARPER: Mr. Chairman, I've got to leave to catch an airplane, but I would like to make a brief comment.

I walk away from today much more optimistic than I have been in the past that we'll make real progress. I'm impressed by the uniformity of view of each of the panelists. Aart, that includes you. And we have a real chance with the uniformity of view and a commitment to get something done to really get at some of these sins, and that does include ours as well.

So thank you for a great feeling. I'm going to fly home happy. Thank you.

MR. TRACY: Thank you for your time, Mike.

Aart, you had a question for Carol?

MR. DE ZEEUW: Carol, at the end of your speech you were telling me you didn't agree with me because I was asking at the end of my speech for a favorable climate, and that the United States will harm its own position if the Congress and the Administration put a very liberal proposal on the table and Congress is discussing a trade bill that is not in my view, very liberal. It's the same thing I said on the tax on fats and oils. And I think those two big powers, if they compete, are doing something that is not in accordance with their responsibility. And that's what I meant by the favorable climate.

But what you were focusing on is a very normal process, because if you think that somebody, another contacting party in the GATT is treating you badly, you may go to the GATT and ask for a conclusion on your question. And there's no question about whether this is a kind of a trade war. It has nothing to do with a trade war, in my view. And if the soybean producers in the United States are going to the GATT and say the deficiency payments are not in coordination with the zero excess from the United States, I said, that's correct, why not? But sometimes I thought why didn't they do it earlier? They're now complaining about the fact that the deficiency payment system in the Community has caused an expansion of oils and fats. That's true, but has happened already for 10 years. It has aggravated in the last five years. I wonder why didn't they do it?

You know, Tom, what I sometimes thought? There are also deficiency payments in the United States. But may I ask Carol, do you agree that we do not disagree?

MS. BROOKINS: Aart, I don't think we basically disagree. First of all, I agree. In the United States they always say that there are three great lies. One is the check is in the mail; the second is that I'll still love you in the morning; and the third is I'm from the government and I'm here to help you. Well, lately around town there's a new one going around on the trade bill that says we're going to fix it in conference.

MR. DE ZEEUW: I think I can tell you that I still love you in the afternoon.

MS. BROOKINS: No, I agree. I think the trade bill -- now Aart, please, you know. Oh, goodness gracious.

MR. TRACY: If not, we'll get the Congress to fix it in conference, don't worry about it.

MS. BROOKINS: I think that the trade bill that's currently before the conference is really an abomination. I agree with you, and I don't think that helps a negotiating climate because that locks in whole new areas of protectionism.

The point that I was making is that I think if we create more ease about the situation in agriculture today and we say let's just do some short-term measures, let's just calm everything down, let's put a minimum level of export subsidies, let's do all these things, that we will reduce rather than enhance the incentive to people to negotiate structural reform. And that if it means that the ASA's files a case against the European Community, and if Europe comes back then and puts in a fats tax, then we should retaliate immediately or threaten retaliation for Europe to threaten to come back.

We have to escalate it, is what I'm saying, because right now, even now where we're at today, if you look at the situation today versus six months ago, it's -- just like in war: people get used to certain levels of discomfort. The world system has adjusted to the EEP, pretty much. You don't hear the same kind of hysteria you did before; in part because prices have gone up from the lows, and in part because people have kind of adjusted their systems that they're managing.

And what I'm saying is that it's only when people are uncomfortable, that they're forced to address things; that when the crisis becomes big enough, you get politicians willing to take risks. And if you look at the situation with our budget deficit, for example, we are in a terrible crisis. And even now to try to get politicians to move is nigh on impossible. So my thinking is that I would much prefer to make love, not war, but somehow maybe we have to make war first to get to the latter point.

MR. KAY: But we might not love you in the morning.

MS. BROOKINS: I don't disagree with you, Aart, but I think that we can't restrain what we're doing, and it would be useful to everyone to stop threatening that we're

going to file a suit or we're going to do this. It would be useful to the process if everyone started doing those things.

MR. DE ZEEUW: May I?

MR. TRACY: Yes.

MS. BROOKINS: And we should be challenging policies.

MR. DE ZEEUW: Yes, let's challenge. And GATT has the provisions for us to challenge each other, but don't do it before. If you say if you are doing something, then I'm going to retaliate. Then I say, first go to the GATT.

MS. BROOKINS: But if the GATT process is so slow and then you get a panel decision and then the Europeans block the panel decision, you know, by that time, we've reached 1991.

MR. DE ZEEUW: It's possible, yes. No, of course, I can imagine, but I think between the big two powers, that's my conviction, you must be very careful not to come into a real trade war because that deteriorates the climate in which you can normally, rationally discuss matters and negotiate. Because it's not only in the monetary field that psychology is important; it's also in our field.

MR. TRACY: Now that we have the two of you agreeing, we have time for just one last question. It says -- and this is addressed to both of you -- what short-term multilateral actions would satisfy those countries that want them, at the same time that the U.S. would get the framework agreement it seeks?

Carol, why don't you go first?

MS. BROOKINS: That's an easy one.

I can't see granting any kind of interim or short-term measures, unless we've already negotiating those in parallel with the long-term framework and we've got a bound commitment, where everyone's formally agreed in the GATT on the objective of the negotiations. Are we negotiating 60 percent trade liberalization, 80 percent, 50 percent, 100 percent? What is the time frame to complete those negotiations; is it, you know, one year or two years? And how are we going to get there, in general? Then I can see implementing some type of interim, as one would say, stabilizers.

My view is that something in relation to the Louvre approach to an accord in the financial markets might be possible. Under the Louvre accord, most countries basically said, 'we will all pledge to do certain things to help stabilize currencies. And in some cases, if those measures fail, we will actually put some money into it if we need to.' Some people are suggesting that there be a minimum or a maximum export subsidy which would permit exporters to subsidize but not to any level greater than the cost of the most efficient producer in the world.

There are other types of mechanisms, but I would see it more as a joint and best-efforts area where the United States pledges to do certain things on stocks,

Europe pledges to do certain things, and other countries. And you reach more of a general agreement based on what each country does to stabilize the marketplace: certainly not a market-sharing arrangement or any agreement to cut up the market, and certainly not any kind of commitment to totally roll back export subsidies totally. I think that that would be impossible.

MR. TRACY: Do you want to add anything, Aart?

MR. DE ZEEUW: I've been in some of the countries which are very dependent on exports; for instance, Argentina, which has the big debt problem, and Uruguay. And they are asking for a solution to help them on a short-term basis, because they like the fact that the price will go up. For instance, agreeing that you do not hurt each other more than when normal competition takes place.

I agree with Carol that you never can come up with a short-term solution if you do not have, first, the long-term. And that is necessary, in my view. And this is not the Community proposal. The Community proposal is first short-term and then we will talk long-term or, I always say, if one contracting party says I never take the short-term solution, only long-term, then you organize the opposite opinion on first the short-term and then the long-term; but perhaps a solution is very easy.

If you have a framework of a long-term agreement, then you can come together and say, in a good climate, what can we do together not to hurt others, especially those countries whose economies are so dependent -- much more than the United States and much more than the Community -- on the export of agricultural commodities. The USA can afford to lose 15 percent or something like that of its total agricultural exports; so can the Community. But countries like New Zealand and Australia and Argentina and Uruguay -- their economies are hurt very much more than our economy; I mean your economy and that of Europe. And because of them, I think, it's necessary to be serious also to see if you can do something in the short-term. But if you ask me if I favor market sharing, no.

MR. KAY: Aart, getting back to your suggestion on the fixed levy, do you see that as a long-term solution, or would you view that as a short-term route to a longer type of arrangement?

MR. DE ZEEUW: I see it as part of the long-term arrangement. But if you ask me how long is a long-term arrangement, then I come back to the 10 years or the five years. And I think if you have to choose a zero option, that you perhaps can do in 10 years or you cannot have an agreement. But you can have an agreement, for instance, with a fixed levy for the time being -- and let me say that you never negotiate a fixed levy for more than three or five years because there must always be a possibility in the future to renegotiate that system. I've never seen that something is forever. I mean, it's always a deal in a negotiation and that deal will last now, in my view, never more than five years.

MR. TRACY: I do have to get us back to the short-term since the reception starts at 17:15 across the street. There are a number of very fine questions still remaining here. I thank the audience for your participation and help in making this a very interesting and successful session. I want to thank all of the speakers. I thank you for your attentiveness, and I particularly thank this very excellent panel. I can't wait to see what progress we've reached by next year.

ANNUAL AGRICULTURAL OUTLOOK CONFERENCE

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THE FEED GRAIN OUTLOOK

Lawrence W. Van Meir
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I will use a little over half of my time on the short run outlook (1987/88) and the balance on some aspects of the feed grain situation for the next 2-5 years.

U.S. Feed Grain Supply

The supply of feed grains for the 1987/88 crop year totals 370.4 million metric tons, 2.4 percent less than the record supply of 379.5 millions tons available last year. Carryin stocks are a record 152 million tons, up 26 million tons (21 percent) from last year. However, production, at 217 million tons, is 35 million tons (13 percent) less than the 1986 harvest.

Corn, the major component of the feed grain supply, is almost 83 percent of this year's supply. Sorghum accounts for about 10 percent and barley and oats together represent the balance. In 1978, the feed supply was almost 100 million tons less than this year and was composed of 81 percent corn, 9 percent sorghum, and 10 percent barley and oats. Thus, corn has become a little more important and the combined portion of barley and oats has declined. But, the declining share for barley and oats is because of reduced area harvested and production of oats -- barley supply has increased in the past 10 years.

The corn supply this year is a little under 12.1 billion bushels, down 2 percent from the record 12.3 billion bushels available last year. Carryin stocks are a record 4.9 billion bushels, or 41 percent of the supply and the third year in a row for carryin stocks to rise. This year's corn crop of slightly less than 7.2 billion bushels is down about 13 percent from the 8.3 billion bushels harvested last year. The large drop in production was the combination of a record 88 percent participation in the feed grain program, a 20 percent required acreage reduction (ARP), a 15 percent optional paid land diversion (PLD) provision, and fewer acres planted on non-participating farms. This year's yield was a record 120.3 bushels per acre.

Production the past two years averaged 7.7 billion bushels, 300 million more than the 1981 - 85 average. However, beginning stocks averaged 4.5 billion bushels, 2.5 billion more than the 1981-85 average. Thus, the large

supply in recent years has been largely a result of the extent to which production exceeded use and accumulated in stocks, rather than the magnitude of the increase in production.

The sorghum supply of 1,472 million bushels is just 21 million bushels less than last year. Carryin stocks are a record 732 million bushels and account for 50 percent of the supply. This is also the third consecutive year for increased carryin sorghum stocks. This year's harvest of 741 million bushels is down 200 million from last year's harvest. A record high 83 percent participation in the feed grain program along with the 20 percent ARP and an optional 15 percent paid land diversion resulted in area harvested dropping 24 percent below the area harvested in 1986. The sorghum yield was a record 70.5 bushels per acre this year, up 2.8 bushels from the previous record set last year.

Carryin stocks of sorghum the past two years averaged 642 million bushels, more than double the average of 295 million during 1981 - 85. Production for 1986 and 1987 averaged 841 million bushels compared with 837 million for 1981 - 85. Thus, as in corn, the recent buildup of supply has been mostly because of the excess of production over use.

This year's barley supply is comprised of a record 356 million bushel carryin stock plus production of 518 million. Although carryin stocks are up 31 million bushels, the 93-million bushel decline in production dropped total supply about 63 million. Again record participation and the ARP and paid diversion account for the decrease in production. The barley yield this year was almost a bushel per acre higher than last year's.

The supply of oats was tight during the 1986/87 crop year and is even tighter this year. Carryin stocks this year are down 51 million bushels and are at the lowest level since 1937. Although area planted to oats was 14.7 million acres in 1986 and 18 million this year, only 6.9 million were harvested in each of the past two years. This discrepancy between plantings and harvest reflects the widespread use of oats as a cover crop for erosion control on ARP and PLD lands.

Yield this year was 3 bushels below last year's 56.3 bushels per acre. Thus, this year's harvest was only 369 million bushels, the smallest crop since 1876. Imports of oats have averaged 31 million bushels the past 4 years and are expected to reach 35 million bushels this year.

A comparison of 1986 and 1987 supply of oats with the 1981 - 86 average shows a different situation than for the other three feedgrains. Production the past two years averaged 378 million bushels, a drop of 137 million from the 1981 - 85 average. However, carryin stocks in 1986 were almost the same as the 1981 - 85 average and were down 49 million bushels this year. Thus, in recent years production has been less than use and stocks have been declining.

The major demand for each of the four feed grains is the demand for energy as an input in livestock, dairy, and poultry production. With corn such a

dominant factor in the feed grain supply, I will concentrate on the disappearance and pricing factors for corn for the balance of time on the short run outlook.

FSI Demand

The demand for processing for food and industrial products (FSI) has grown steadily over the past 10 years. Two products, high fructose corn syrup (HFCS) and ethanol resulted in a growth rate of nearly 13 percent a year during the first half of the 1980's. In the last couple of years, the growth rate has decreased and is now about the same as the constant dollar growth rate of the Gross National Product. FSI disappearance is forecast at 1,225 million bushels for 1987/88, an increase of 34 million bushels (2.9 percent) from last year.

U.S. and World Trade

Corn exports peaked at slightly over 2.4 billion bushels in 1979/80 and 1980/81, then leveled off at an average of 1.9 billion bushels for four years before dropping to a little over 1.2 billion in 1985/86, the lowest level in 11 years. Exports recovered to 1.5 billion bushels in 1986/87 and are forecast to reach 1.7 billion this year.

Foreign course grain production is forecast to be down about 2.5 million metric tons this year but use is expected to rise about 12 million tons thus, world trade probably will be somewhat greater this year, but foreign countries likely will also reduce stocks.

Foreign corn production is expected to be down about 2.3 million tons, despite a 9-million-ton increase (to record levels) in China's production. Output is expected to be down in a number of countries, including some major competing exporters. Eastern Europe's corn production is forecast to drop 8.6 million tons, causing the region to switch from a net exporter to a net importer of around 2 million tons. Thailand's crop is down 34 percent from last year's drought reduced crop and its exports may drop to only 1 million tons. Thailand exported 2.5 million tons of corn in 1986/87 and almost 3.4 million in 1983/84 - 1985/86. Argentina is expected to switch area from corn to soybeans this year because of improved net returns from soybean production. With more normal yields, Argentina could see a moderate increase in production and exports. However, exports will remain well below 1985/86. South Africa has announced a policy to discourage production for export. As mentioned earlier, China is expecting a record corn crop. Nevertheless, China is currently expected to export about the same as last year's 3.7 million tons while increasing imports. In 1985/86, China was a net exporter of 6 million tons, but reduced exports to 2 million in 1986/87 and could slip to only 1 million in 1987/88.

Feed Use

Feed and residual use this year is forecast at 4.8 billion bushels, up about 2 percent from the 4.7 billion bushels disappearance last year. Grain consuming animal units on hand for this year are expected to total 77.4 million units, an increase of a little over 3 percent from the 75.0

million units on hand in 1986/87. Last year, corn feed and disappearance rose by 15 percent even though the number of grain consuming animal units declined slightly. There are a number of factors such as feeding to heavier weights and increased milk production that could result in feed use increasing somewhat even though the number of animal units remained unchanged or decreased slightly. However, given the record large increase in feed and residual disappearance last year, it appears that residual factors may have been the source of a significant amount of the increase. Consequently, the increase for 1987/88 understates somewhat, the increase in livestock and poultry numbers.

Totaling these three source of use, FSI at 1.2 billion, exports of 1.7 billion, and feed and residual of 4.8 billion, gives a record disappearance of 7.7 billion bushels. The question is, at what average farm price will this quantity of corn move into the market?

Corn Prices

Historically the loan rate was a floor for farm prices, and when the stocks-to-use ratio was about 19 percent or higher, the average price received by farmers would be close to the loan rate. Most years in which the average farm price was high relative to the loan rate represented a year of tight supply because of drought or some other factor, and the ending stock-to-use ratio would be well under 19 percent.

However with the Food Security Act of 1985, and the use of generic certificates, no longer is the loan rate necessarily a floor to farm prices. Last year the price received by farmers was \$1.50 a bushel (the loan rate was \$1.92), and this year we are expecting the average price to fall in the range of \$1.60-\$1.90 a bushel, compared with a loan rate of \$1.82.

One may ask why an increase in price is forecast when there is almost as much corn on hand this year as last year; (1), farmers are bullish on prices this year and are not as anxious to sell as they were last year, and (2), "free" supply of corn is tighter this year than it was last year. My definition of "free" supply is that portion of total supply that is not tied up in CCC inventory, the farmer-owned reserve (FOR), the special producer storage loan, or in regular CCC crop loans.

The carryin stocks for this year were all accounted for in CCC inventory, the FOR, or under loan. In fact, the "free" stock position was a -161 million bushels, compared with free stocks of 194 million bushels in the 1986 carryin. Moreover, farmers will place part of this year's crop under loan. The percent of the eligible corn placed under loan in recent years seems to be inversely related to the ratio of the Sept.-Jan. average farm price to the loan rate. The definition of eligible crop for loan placement is the area harvested in compliance with the feed grain program multiplied by the U. S. average yield. This year, about 49.5 million acres were planted in the program and the average yield is 120.3 bushels per acre. Therefore, about 6 billion bushels of corn are estimated to be eligible to go under loan. Assuming that farm

prices average about 87 percent of the loan rate this Sept.-Jan., about 63 percent of the 6 billion bushels of corn, i.e. about, 3.8 billion bushels of corn would be placed under loan leaving about 3.4 billion as free supply. However, part of this is committed to replacing FOR corn that was rotated prior to harvest. Thus, the free supply is less than 3.4 billion and total market use is forecast at 7.7 billion.

The balance of the corn needed to meet market use will have to be freed up by generic certificate exchanges, by CCC sales, and by cash redemptions from regular loans. Consequently, where the price actually settles in the forecast range of \$1.60-\$1.90 will depend on the quantity of generic certificates. In 1986/87, about 3.2 billion bushels of corn were exchanged for \$5.7 billion of generic certificates. Corn exchanges represented about 74 percent of all generic certificates exchanged.

However, this year it will be necessary to free up more corn than last year from loans, CCC inventory, and the FOR. If the quantity of generic certificates is not sufficient to accomplish this, then price will rise to increase the volume of cash redemptions. The farm price likely will have to be in the vicinity of \$1.90-\$1.95 for a period of time to attract a large volume of cash redemptions. Therefore, if the volume of certificates issued this year does not exceed the quantity issued last year by a significant margin, prices will be closer to the higher end of the forecast price range. However, if a significantly larger value of certificates are issued this year, the average farm prices will hold closer to the \$1.60 end of the price range.

Planting and growing conditions for 1988/89 will likely also have a significant seasonal impact on price. If the planting season is delayed by adverse weather, the price of corn likely tend to be stronger in May and June than if good planting conditions prevail. Similarly, growing conditions in late June and July will have a significant influence on prices. If yields are threatened by drought or a combination of high temperatures and dry weather during polination, corn prices will hold strong in July. This price strength likely will continue as long as yields are threatened. If adverse weather continues through August so that yields are significantly reduced, price strength will likely hold through to harvest. However, if the adverse weather is of short duration and good growing weather returns, prices will likely slide in August as harvest approaches.

Prospects in Coming Years

This concludes my remarks on the short run outlook, and in the time left I will cover a few points significant to the more distant outlook.

Disappearance this year is forecast to exceed production so that stocks are expected to decrease from 4.9 billion bushels to 4.3 billion -- a drop of almost 600 million. However, the ending stock-to-use ratio would still be 56 percent, far above a stock ratio that would move the average price received by farmers significantly above the loan rate. If

stocks are reduced at the rate of 600 million bushels a year, an additional 5 years may be needed to reduce stocks to a neutral position. The actual time required will depend on the extent to which domestic production is limited, the growth of domestic demand, the rate of foreign economic growth, world crop conditions, and foreign food and agricultural policies.

A measure of the incentive to participate in the U.S. feed grain program is the percent increase in net return per acre above variable costs by participating rather than not participating. This can be calculated by estimating the gross income per acre less the variable cost per acre if participating, and divide this by the gross income per acre less variable costs if not in program and subtracting 1 from the quotient. In recent years, this incentive measure is related to the rate of program participation by the relationship, $90 - 64.2(.9671)^X$, where X is the incentive to participate. According to this relationship, if the net gain per acre from being in the program is 57 percent, participation would be 80 percent. If the incentive dropped to 30 percent, the participation rate would drop to about 66 percent. Thus, if a high rate of program participation is desired, the incentive to participate will have to remain fairly high.

Another factor to consider is the potential for continued expansion of exports. Foreign course grain production has been characterized by a linear rising trend since 1970. For the past 5 years, the year-to-year deviation from this trend has been small compared with the 1970's.

In contrast, foreign use of course grains has been increasing at a decreasing rate during the 1980's. The slowing in use, coupled with the continued rise in production has resulted in a flattening of world trade in course grains in the 1980's. Thus, the extent of future expansion in U.S. exports of corn will likely depend on a change in the growth rate of foreign use or a tapering off in the rate of increase in production. The rate of foreign economic growth and foreign exchange earnings and expenditures (especially for debt repayment) will no doubt be important factors. Also growth in production and consumption in China and the USSR will continue to play an important role.

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OUTLOOK FOR FEED GRAINS

M. R. Laserson*

Executive Vice President, Marketing and Trade Policy
World Grain Group, Continental Grain Company

I am very pleased to be here at the Annual Agricultural Outlook Conference whose theme is Outlook '88. No matter where I travel -- whether it be to Moscow or Beijing...Portland or Enid -- anyone involved in agriculture looks to Washington and these conferences to find the answers to his or her planning problems and the thorough analysis of supply and demand subjects on a global basis.

On my last trip to Moscow, I asked people there for their view of the Russian crop...only to be told they could not say because they had not yet heard the correct figures from Washington. To be part of the process...to attempt to share with this audience our views...is an assignment, then, that carries an important responsibility.

As I talk about the outlook for feed grains, I will concentrate on corn. Most of the world's buyers have learned to use corn and

* Mr. Laserson was unable to personally attend the Outlook Conference. His comments were presented by Dr. Richard Smetana, Deputy Director of Research, World Grain Group, Continental Grain Company.

Feed Grain Outlook

grain sorghums essentially interchangeably, and other speakers will talk about wheat as a feed grain.

On the other hand, the demand for barley is so dependent upon the politics of export subsidies, largely the Export Enhancement Program for Saudi Arabia, that a rational discussion can barely take place. For example, how does one explain the phenomenon of paying a subsidy of \$50 per ton to export U.S. barley when the overseas buyer of that barley first pays only \$50 a ton for barley and then pays the same subsidy or more on its wheat to take away wheat markets from the U.S. producer? How do we explain to the livestock feeders in California that U.S. barley is produced to subsidize camels in the Middle East and not to feed animals in the United States?

I might add that in Western Europe, the analysis of feed grains remains a rather special hodge podge of linear programming that has to deal with a wide range of feed ingredients -- such as tapioca from Thailand, citrus pellets from Brazil, rice bran from India, and lupins from Australia. So, what happens in Western Europe does not really impact on the global trade of corn. In fact, even though Western Europe is an importer of feedstuffs, its elaborate subsidy system forces it to export the traditional feed grains, feed wheat and barley...and this year, probably a minor amount of corn.

Everyone here today knows that in 1987 our massive corn surplus in the U.S. finally began to decline. Maximum use of the Acreage

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Reduction Program -- together with a paid diversion and the Conservation Reserve Program -- reduced the U.S. corn crop by more than 500 million bushels below anticipated usage. This has occurred despite an almost ideal growing season and a harvest virtually free from any problems.

The legislated reduction in loan price in 1987 -- and the USDA version of a marketing loan -- which allows PIK and roll -- have kept prices low enough to dramatically expand domestic utilization, increase animal numbers and, incidentally, keep food prices in the United States affordable.

The livestock and poultry industries have reacted positively. Hog and cattle feeding and milk production are all in an expansion stage in response to the excellent, and sometimes record, profit margins. Poultry production will be up 8% in 1987 and an additional 4% is projected for 1988. As a result, coarse grain feeding has risen 8% during 1986/87 to a record 145 million metric tons. Further expansion will occur in 1987/88.

Lower grain prices have translated into a positive factor for food consumers. Thus, we are eating more meat per capita today than ever before.

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As important as the domestic utilization has been, the largest relative change in the corn supply and demand story has been in the area of exports. The United States will export approximately 500 million bushels more this year than two years ago...an increase of 40% from that rather dismal performance...and not so coincidentally, close to the volume by which our stocks will shrink this year.

With that background, I would now like to turn the thrust of my remaining comments to what I think this development means for the future.

First, and I believe most important, our nation's corn traders have been encouraged to continue their role as marketers. We have not been burdened by an Export Enhancement Program for corn that would put the U.S. Government in the position of determining markets, prices and the rules for reliability. Our export trade of corn, up (I repeat) up 40% from two years ago, has been accomplished without export subsidies.

We have been encouraged to serve and expand traditional business whether it be in Asia or in Eastern Europe. For example, the Soviet Union -- without the discrimination attached to the wheat subsidy program -- continued to honor its agreement to buy U.S. corn. Our overseas customers continue to believe in our open market system and are free to plan their purchases without the fear of an Export Enhancement Program creating disturbances in those plans.

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As traders, we improved the quality of our shipments with improved cleaning, drying and fumigation techniques. We have made investments in people and equipment, both in the U.S. and overseas. New feed mills in China and in Japan will mean increased utilization and, eventually, greater demand. Market development, economically, is far more dependable than market development, politically.

The second factor in developing feed grain markets relates to price. The reduced loan levels and the use of the pseudo-marketing loan have stimulated demand. That demand has been more in the form of a willingness on the part of buyers to plan, to stockpiling by buyers, and to reduced production by both competitors and users around the world than, so far, to increased utilization of feed grains. But the utilization can follow as users begin to trust our dedication to lower support prices and to remain competitive.

It has not been easy for overseas industries to attribute consistency to U.S. farm policy. As a result, dependence on U.S. grains has been too shallow to plan for growth over time. Our lower price support program, if it continues as laid out in the 1985 Farm Act, will allow this country to continue benefitting from U.S. farmers' ability to produce and to compete.

Much has been made in the past of our farmers' inability to compete. However, a recent study made for the Agricultural Policy Working Group pointed out that three fourths of the 1986 U.S. corn

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crop was produced at a variable cost below \$1.20 per bushel. This cost is reportedly equivalent to average variable costs in Argentina, whose annual production of corn is less than 1/20th that of the United States and who is often cited as a lower cost producer than the United States.

The third factor in the markets has been weather. We have seen a decline in corn production this past year in China, Argentina and Thailand -- all of which means increased demand for U.S. corn, particularly from Asia. Weather problems during the growing season combined with reduced price incentives to buy better seed and fertilizer. As a result, the United States has inevitably increased its market share in that part of the world where the quality of living is improving along with the ability to afford a better life style.

It's important to note that the 500 million bushel increase in exports from the United States is all directed to Asia. Yet, total Asian imports, including China, will increase only 200 million bushels. The U.S. can keep this increased market share and dominate the increased market demand if our programs stay on track.

Fourth, and finally, the politics of world agriculture are beginning a transition period. Almost everywhere we look, subsidies that have at once encouraged high production and high prices are being recognized as inefficient and too costly:

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* The EEC and Japan have stopped the process of ever increasing support prices. The EEC, in fact, has lowered the effective support price for its farmers through the mechanism of quality considerations.

* The United States has lowered both loan and target prices.

* China is beginning to encourage less grain production in favor of oilseeds and vegetables.

At the same time, consumption in many parts of the world is being liberalized:

* Korea is already departed from the strict government control of feed grain imports.

* Taiwan is scheduled to follow next summer.

* Japan is opening its doors for at least processed foods.

* The Soviet Union and the rest of Eastern Europe recognize the absolute necessity to improve the diets of their people.

In country after country, change is taking place. And the characteristic that is common to all is "liberalization," a process of offering choice and selection...a chance for improvement and innovation.

What happens next?

Feed Grain Outlook

We know that the changes created by the 1985 Agricultural Act have put us on the right path. Lower prices have done their job. But lower prices have not been without costs. The gap between market prices and target prices has been burdensome to the taxpayer and an excuse for other countries to go slow in reducing their own subsidies.

We cannot afford but to lower our target prices further. We cannot afford to have a paid diversion program on top of Acreage Reduction and Conservation Reserve Programs while at the same time demand for grain is increasing rapidly.

Farm income will, in fact, increase even with lowered target prices if the Acreage Reduction Program is also reduced. The study for the Agricultural Policy Working Group, which I mentioned earlier, noted that the requirement to reduce acreage by 20% can add as much as 33 cents per bushel to the costs of a typical Iowa corn farmer since the fixed costs on idled land must be spread over fewer units of output.

Our need to restore jobs to the agricultural industry in this country demands that the farmer receive his income from the marketplace. I believe most farmers would also like to be rewarded more by the market than by the government. So we must move further in the direction of a market driven farm economy. Only that will

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preclude grain shortages or artificially created stockpiles that fill our warehouses but not our people.

Let's take a quick look at some of the numbers on corn:

- * We assume 1988/89 utilization will be similar to this year, at 7.8 billion bushels. Perhaps somewhat lower domestic usage will be offset by a modest increase in exports.

- * A crop of 7 billion bushels in 1988 would reduce carryover to 3.5 billion bushels. But of that, 1.3 billion -- or nearly one third -- could be in the Farmer Owned reserve, which is isolated from the market by law. That leaves an effective carryover of 2.2 billion bushels.

- * The last time we had as many acres taken out of production as we are contemplating for 1988 was in 1983. A repeat of the decline in yield of that year would result in rationing corn supplies...endangering our export recovery and inevitably raising costs to the American consumer. A repeat of the 1983 corn crop scenario -- which produced 5.3 billion bushels -- will lower the pipeline supply to an impossible level unless it substantially decreases utilization through price rationing.

As an aside, maximizing the Acreage Reduction Program not only puts our corn supplies in danger, but the program rules are going to create a real shortage of soybeans in the year ahead.

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Two or three years ago, it was popular to say the world was awash in grain. We have had our bath, and it is time to take a clean new look. We do not have to make the mistakes of the past over and over again.

Let's build on the beginning of change we are experiencing this year...and take the chance that the United States is the most efficient producer.

If we cannot do much about weather, we can do a lot about developing new technologies that increase production. If we cannot make policy in other countries, we can provide the incentive for planned growth in many parts of the world. If we cannot improve the economies of underdeveloped countries through our efforts alone, we can keep trade barriers from restricting commerce and development. If we cannot sell our values and politics, we can sell our ideas and innovations.

With one more year of expanding trade and a healthy livestock industry, we may be setting a trend. We need to be careful that we set the trend...that we manage the growth...and that we avoid the cycle of scarcity that has followed plenty since the time of the Biblical Joseph.

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Outlook '88

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FEED GRAIN OUTLOOK - FOREIGN PERSPECTIVE

Daniel A. Miró
Chief Economist, Buenos Aires Grain Exchange

Mr. Chairman, ladies and gentlemen, I would like to thank the authorities of the United States Department of Agriculture for inviting me to address this distinguished audience today. I appreciate this opportunity to offer you the foreign perspective on feed grains.

I remember that Professor Don Paarlberg, on discussing the 1985 U.S. Farm Bill two years ago, noted that many people in the agricultural sector seem to underrate the connections between their activity and the rest of the economy. The trends observed in the feed grain world market in the past few years show how misguided this unconnected view is. The supply function of these grains has certainly been influenced by the sophisticated agricultural policies of the developed countries, while the demand function has somehow reflected the overall financial conditions which have decisively determined the world's economic evolution.

In relation to this last point, Peter Drucker in his view of the world's changing economy, anticipated two ideas that seem to be validated by facts:

- The primary products economy has come "uncoupled" from the industrial economy.
- Capital movements, rather than trade in both goods and services, have become the driving force of the world economy.

Due to the marked unsteadiness of the financial markets, now highly integrated through technology, stabilization policies agreed upon by the major countries are required with increasing frequency. The growing uncertainty arising from the declining effectiveness of such policies is raising doubts as to the impact of those conditions on the grain market, which has lately shown high stocks/consumption ratios.

We should not rule out a possible acceleration in the effects of macroeconomic phenomena, and a consequent reduction of the available capabilities for negotiating convincing international agreements favoring both the expansion of world demand and a quicker adjustment in farming resource allotment.

When the Club of Rome described and alarming picture of food and energy shortages, the world agricultural sector generally adapted to those prospects

with extraordinary promptness. Scientists, businessmen and even politicians all agreed on both the diagnosis and their expectations. The results did not take long.

The adjustment we need today is substantially different and, probably for that very reason, quite harder to attain. It is, in any case, equally necessary.

The Argentine situation

Within this context and for various reasons, Argentina's agricultural performance has shown a decline particularly in the past two years. The area sown with grains and oilseeds, as shown in Chart 1, reached a peak of nearly 23 million hectares in the 1982/83 and 1983/84 seasons. Since then, there has been a steady fall down to approximately 19 million hectares in 1986/87, that is a similar level to those registered in the early '70s. A reasonably estimate would suggest a very slight increase of this variable in 1987/88.

In feed grains, a downward trend has become evident in the present decade. The area sown with these grains has been largely replaced by oilseeds, given the relatively better prices of the latter. The decline in the area of grain sorghum is, no doubt, the most remarkable fact, although these trends will become more marked in 1987/88 as a result of a fall probably higher than 15% in corn sowings.

The persistent downswing in cattle numbers has helped beef producers' to improve margins during most of 1986 and a little beyond the first half of 1987. As a result, 1987/88 winter sowings have shown an expansion in oats and other minor feed grains, particularly in the south of Buenos Aires Province. Although important, this growth is by no means a compensation for the decrease expected in the area of corn.

The domestic consumption of corn and sorghum for feed and industrial use has grown too, which worsens the decrease of surplus available for export, as shown in Chart 2.

Due to the rapid pace of inflation in the past few months, it is difficult to predict the future returns of beef producers'. We should not forget here the decreasing purchasing power of internal consumption, which now represents about 90% of the overall demand. The improvement of local market conditions and an increase in export sales would favor greater diversification of agricultural activities as well as a future increase in the relative importance of winter feed grains. In this sense, the flexibility of the Argentine farming model gives producers alternative possibilities. However, changes in resource allotment are increasingly limited as a result of the low degree of capitalization shown by farming and other related activities in my country.

Argentine grain production, as shown in Chart 3, has evolved in a rather parallel way to the area sown. Even though climatic factors such as persistent floods partially justify the decrease in average yields in the last two

seasons, little or no profit margins in certain crops have discouraged technological development, and certain technical backsteps in production models can be observed in some regions.

This situation can be only partly explained by lower world prices. The capacity of the Argentine agricultural sector has been adversely affected by the country's difficult economic crisis that results from a high external debt, consequently low investment levels and declining productivity, among other causes.

Despite the authorities' attempt to control them, the recurrency of high inflation levels continues to have negative effects on the Argentine economic system. This is coupled with high positive real interest rates, whose persistence is detrimental to many aspects of agricultural production and marketing systems. At the same time, higher taxes and existing projects for creating new ones of various kinds only tend to override, to a great extent, the positive effects of cutting down on export taxes and the consequent improvement of net exchange rates.

Within the less and less exclusive group of grain exporting countries, Argentina's commercial balance is typically dependent, even now, on ag-industry exports (1). As shown on Chart 4, Argentine exports quadrupled during the '70s, even exceeding the 9 billion dollars in 1981. The agrindustrial sector's contribution was fundamental for these results.

During the 80's, however, the situation has changed. Particularly since 1984, there has been a persistent decline in the hard currencies generated by the ag-industry complex. This has greatly determined significant cutdowns in total exports both in 1986 and in the estimates for the present year. Despite the strict self-imposed limitations as regards imports, the results of the commercial balance have been declining. This has forced our country into additional renegotiations on its external debt, but even so, no significant economic change of this situation can be foreseen in the near future.

The Prospects

Despite the obvious unbalance periods that the feed grain world market goes through, U.S.A.'s emphasis on production controls and the lower levels of production in countries like Argentina contribute to a gradual adjustment of the supply and demand situation. This, among other reasons, has allowed world prices to strengthen in a certain degree. Unfortunately, the economic logic

(1) Ag-industry complex is composed of: grains, oilseeds and by-products. Livestock and products. Dairy products. Poultry, eggs and honey. Fruits, vegetables and other products. Sugar and sweets. Tobacco. Cotton, wool and fibers. Various high-valued processed foods.

of this adjustment has not been adopted by all participating countries to the same extent. It even seems as if a substantial part of the inevitable costs of this situation were expected to be transferred, with different justifications, on to those least capable of affording them.

A distinguished Australian speaker, Mr. Geoff Miller, said in this auditorium last year that the progressive restoration of international equilibrium in these markets is a joint task, stressing that the most important aspect of the necessary process of reducing production incentives is that the burden of adjustment cannot be borne by any one country operating on its own, since the costs would surely be higher for it than the benefits.

In this sense, there are substantial differences in the attitudes of the various nations. This is especially apparent in the study of the proposals submitted to the Forum of the General Agreement in Tariffs and Trade (GATT) on the occasion of the present Uruguay Round. The U.S. proposal could well be considered an ideal one, its fulfillment being extremely difficult under the present circumstances. The Cairns Group is, in my opinion, less ambitious in its methods, although its final aims are similar. Even when a cautious attitude calls for a moderate optimism towards these negotiations, an objective analysis on market responses shows that the international grain business community has not yet incorporated such a view into its behavior.

It has been said before in this auditorium that the crisis has a very important demand side. In the case of feed grains, this feature is particularly outstanding and will surely still influence the evolution of world trade in the next few years. The significant U.S. dollar depreciation as compared to the major currencies has plunged the value of these grains for Europeans and Japanese people down to historically unparalleled levels. Notwithstanding, Japan is satisfactorily meeting its own requirements, and the importance of Europe as an import market has significantly decreased.

The Soviet Union, on the other hand, is still an element of instability and uncertainty. Its imports have been dropping, either because of changes being introduced in feeding criteria or because the persistent attempts at a more efficient organization of its farming activities are yielding their first results.

The fact is, as in the '70s, that the chances for a higher demand still depend on developing countries. For most of these, with the exception of the favorable behavior of the newly industrialized countries, the dollar depreciation has few implications in the face of their serious financial problems. A recent report from USDA's Economic Research Service rightly says that the adjustments derived from the world debt crisis have probably forced developing countries into low-level growth rates, precluding a world trade recovery, particularly in the area of agricultural products.

It is obviously this aspect of the crisis that requires the most attention. Failing to see it this way would only lead developed countries to overburden

the imagination of their agricultural economists in search of new and more sophisticated production control methods, with minimum impact on producers' income, as well as to press politicians to improve their strategies for an appropriate financing of such innovations.

In the meantime, those of our countries which have long been engaged in this activity, closely watch our costs levels and our competitive ability. The Ohio State University produced an interesting analysis of this matter in mid 1986, whose results are shown in Table 1. This report reveals that, in spite of all its difficulties, Argentina still has comparatively low production costs. Such a conclusion should be taken as relative, however, since there are factors which are peculiar to each producing country and far too complex to assess and add to comparative estimates such as this.

Studies based on qualified Argentine sources show, as a matter of fact, that the total cost of producing and marketing corn of that origin was around 73 US dollars per ton by mid 1986 and a little less than 70 US dollars per ton by the same time this year on a FOB basis. Such are the costs of comparatively efficient farms located in the Argentine corn belt. Nevertheless, they may well not include certain elements that should not be overlooked. I refer, specifically, to the deterioration of the agricultural system as a whole, which is especially noticeable in the lack of appropriate levels of reinvestment, both in terms of farm machinery used by producers and in basic infrastructure works as regards grain handling and transportation, which are vital components of an efficient commercial process.

In addition, despite the government's efforts, the problems I have mentioned also involve a progressive wearing down of the structure and fertility of the Pampa's soils in certain regions. Even a relatively less intensive production model as the Argentine one requires certain additions and specific procedures for an appropriate soil conservation.

Mr. Chairman, ladies and gentlemen: Several distinguished speakers informed us yesterday about the commercial challenges of the future. Tomorrow, new ways of adjusting to the reality of world markets will surely be proposed. On the basis of my regular attendance at these meetings, I would like to strongly suggest that a session focusing on this matter be always included in this Outlook Conference. It is advisable to have a constant assessment of the extent to which agricultural policies really interpret the market's changing reality.

The feed grain world trade will gradually recover its potential for growth as long as the changes required by the world economy take place.

As regards Argentina and its farming sector, there are no valid short-term options but to keep trying to produce and to make the most of the subsisting comparative advantages. In this sense, the world price crisis seems to have generated in the Argentine society a greater understanding of how important the agricultural sector is for our country, and this will favor a better economic resource allotment for this activity in the future.

It is my opinion that, either because of economic or climatic factors, Argentina will not cease to be an unstable supplier, that is, a comparatively fluctuating one in terms of the volumes it turns over to world trade. As to the composition of its exportable surplus, it will stay strongly influenced by any changes in the relative prices at world level.

In the last few years, Argentine production has tended to conform to the major trends of the world market, and there are no signs of an emerging change in that respect. On the other hand, in spite of the difficulties encountered in this scenario, it is obviously necessary to continue producing and selling at the lowest possible cost. Thank you.

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Chart N°1

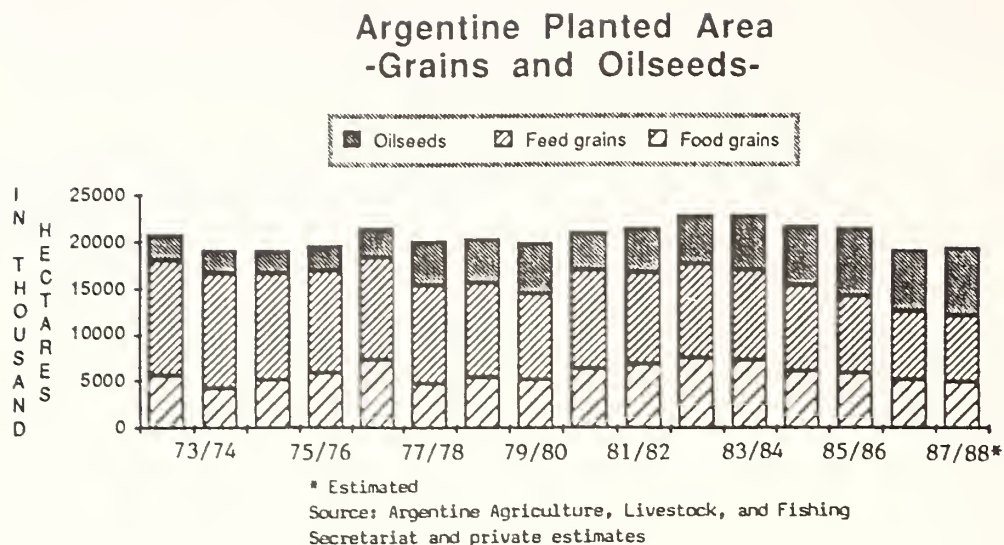


Chart N°2

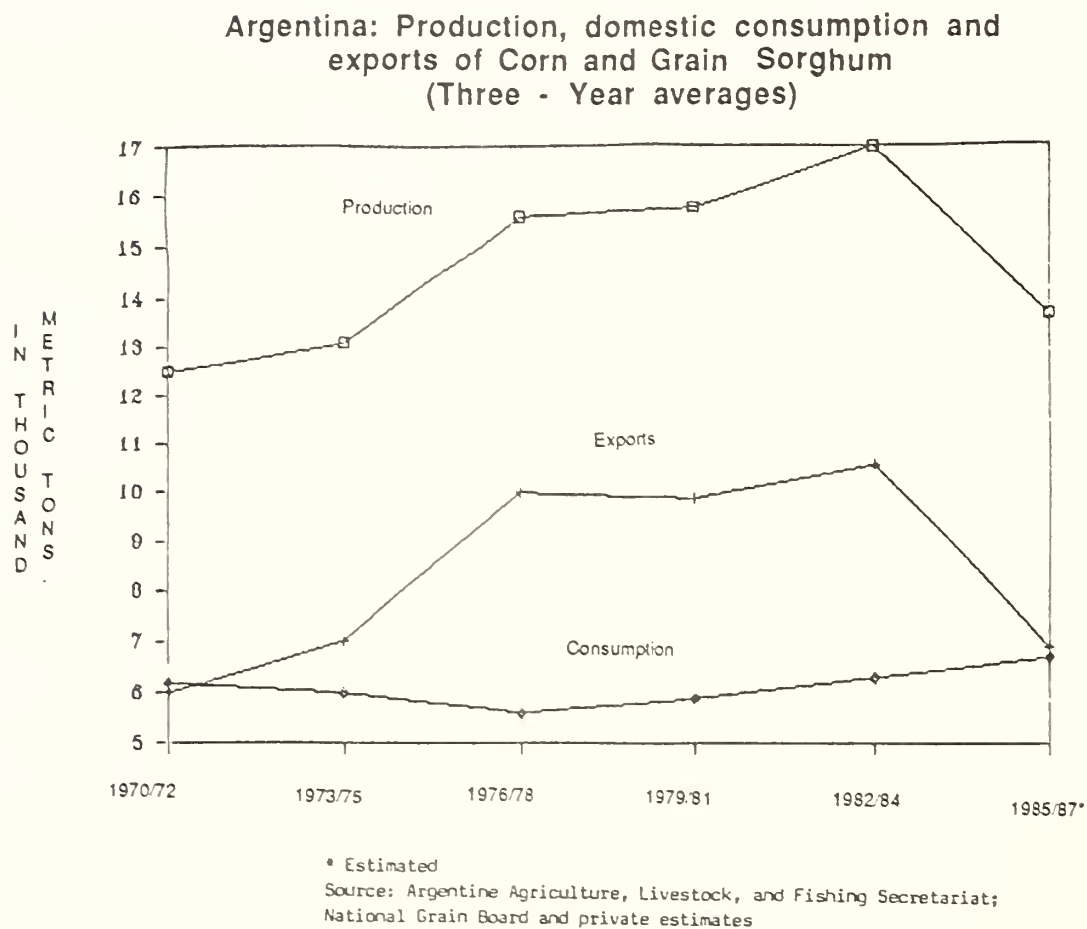


Chart N°3

Argentina: Grains and Oilseeds Production

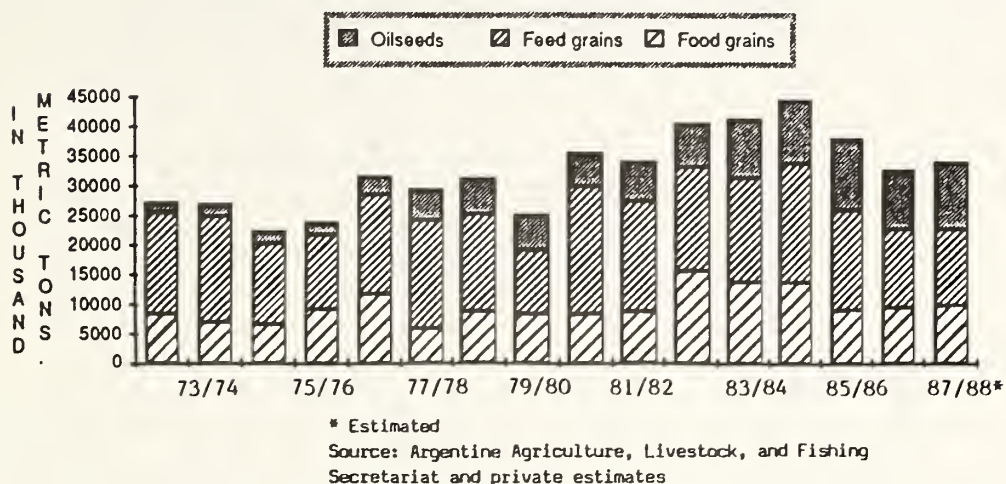


Chart N°4

Value of Argentine Exports

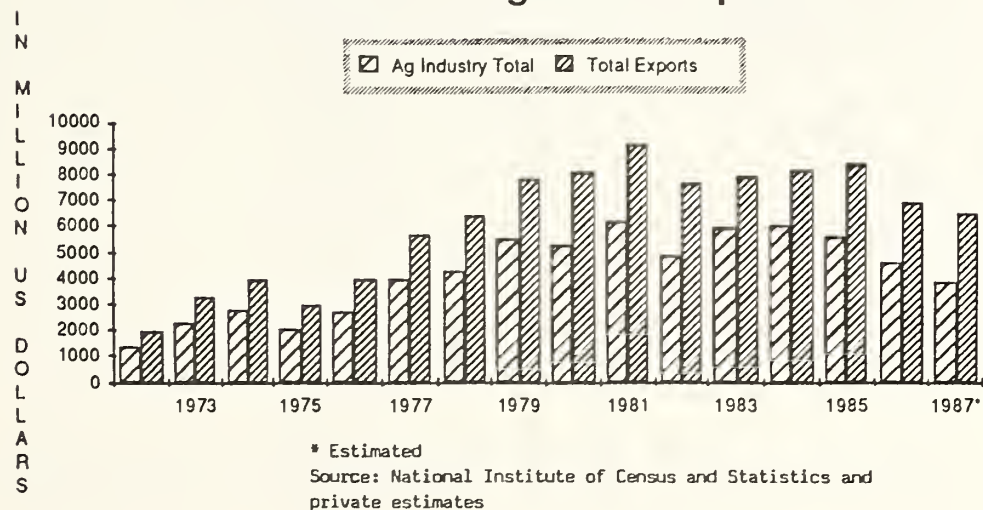


Table Nº1

PRODUCTION AND MARKETING COSTS OF CORN IN VARIOUS COUNTRIES
U.S.DOLLARS PER METRIC TON.
(MID-1986 PRICE LEVELS AND EXCHANGE RATES)

	ARGENTINA	BRAZIL	S.AFRICA	THAILAND	U.S.A.
TOTAL VARIABLE COST	45.60	73.28	61.12	43.98	58.70
TOTAL FIXED COST	39.62	75.10	47.02	35.18	60.52
TOTAL PRODUCTION COST	85.22	148.38	108.14	79.16	119.22
MARKETING COST	30.46	37.37	35.60	33.92	25.10
TOTAL COST	115.68	185.75	143.74	113.08	144.32

SOURCE: OHIO STATE UNIVERSITY. SEE REFERENCES

ANNUAL AGRICULTURAL OUTLOOK CONFERENCE

United States Department of Agriculture
Washington, D.C.



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REVIEW OF THE WORLD FOOD GRAINS SITUATION

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This is proving to be an exciting year for those of us who follow the world wheat and rice situations. Dramatic developments are taking place on both the production and trade front with more likely to come. Rice has moved from a position of relatively abundant supplies and low prices to one of tight supplies and increased prices. Wheat appears to have firmly reversed the recent trend of surplus supplies, shrinking exports, and bulging stocks. The current marketing year could well be setting the stage for an even more exciting year in 1988/89 for U.S. followers of both the wheat and rice outlook.

THIS YEAR'S DOMESTIC OUTLOOK

The 1987/88 U.S. wheat marketing year is characterized by another relatively small crop as acreage reduction programs limit outturn, continued heavy domestic disappearance, a bright export outlook, a sizable drawdown in stocks, and prices to farmers some 10% above loan.

Midway through the 1987/88 marketing year, we continue to observe an improving wheat outlook. Disappearance to date has been somewhat heavier than expected. Thanks to competitive export prices, exports got off to a strong start this marketing year. In addition, wheat feeding was extremely heavy in the early season. With demand, particularly export demand, projected to continue strong, stocks will have to be drawdown by over 400 million bushels to help meet requirements. In fact, because free stocks of wheat were not expected to be adequate to meet growing export opportunities, steps were taken to increase the availability of Commodity Credit Corporation (CCC) stocks to the marketplace. Of particular concern will be the availability of durum and soft red winter (SRW) supplies, two wheat classes which are quite important in the operation of the Export Enhancement Program (EEP). A shortfall in available supplies of these classes could limit export options under EEP for the balance of the 1987/88 marketing year.

The combination of reduced loan rates and the EEP have improved the competitiveness of U.S. wheat in many markets. These two factors are the major reasons why U.S. exports increased by 14 percent in 1986/87 from the

year earlier level and are projected to increase by nearly 30 percent in 1987/88. Just to show how important EEP was to U.S. exports in 1986/87, around 25 percent of our total wheat exports moved under this program. So far in 1987/88, the share has jumped to over 50 percent.

The outlook for U.S. exports for the balance of the 1987/88 marketing year is particularly good. Overall world import demand is projected to continue strong. Meanwhile, Australia and Argentina have already committed the bulk of their 1987 crop exportable supplies. The European Community's 1987 wheat crop is well below earlier projections. The cold, wet harvest not only reduced yields but also reduced quality below a year ago. These factors, along with a potentially smaller world market for feed wheat this year, could limit EC exports. A smaller 1987 Canadian wheat crop and lower quality may offer some additional opportunities for U.S. sales. However, so far during the 1987/88 marketing year, Canada has had a successful sales campaign and total wheat exports are likely to reach last year's high level.

These developments should result in increased opportunities for U.S. sales. However, supplies must be available in order to meet this demand at competitive prices. In response to these needs, CCC has taken steps to make its wheat supplies more readily available to the market place. These actions should help free supplies in order to meet both foreign and domestic demand.

Not only is demand for wheat picking up world-wide, but surprisingly the growth in demand in the United States seems to be leading the way. Total 1987/88 wheat food disappearance has been estimated at a record 750 million bushels, about 3.5 percent above the previous year. Consumer preferences in bakery products and eating habits have changed, resulting in increased purchases of variety bread products, pasta products, sweet breads, ethnic foods, snack foods, and fast-food patronage. These changes suggest good news for the U.S. domestic wheat industry for some years to come.

With total demand exceeding the 1987 crop, wheat stocks are projected to shrink by around 24 percent by the end of the 1987/88 marketing year. At 1.4 billion bushels, stocks on May 31, 1988 would be the smallest since that date in 1982. CCC-owned stocks and wheat in the Farmer Owned Reserve are expected to account for around 75 percent of year ending stocks, resulting in another year of relatively tight year ending free supplies.

Wheat prices so far have generally followed the decline in the loan rates that was provided for under the Food Security Act of 1985. For the 1987 crop, the loan rate was announced at \$2.28 per bushel. However, with a heavy early season export push, due in large part to shipments to China and the USSR under EEP, wheat prices at the farm have been averaging 10 percent above loan. For the marketing year, USDA is currently projecting that wheat prices could range from \$2.40-2.60 per bushel.

With exports recovering sharply and domestic use running at higher-than-expected levels, the stage was set for a strengthening in wheat prices. Wheat prices have moved up by more than 10 percent from their harvest time lows; however, concern about sufficient availabilities of some wheat classes to meet domestic and export demand have resulted in increased flow of CCC wheat stocks into the market.

WORLD WHEAT SITUATION

A number of factors stand out when describing the 1987/88 world wheat situation. Area devoted to wheat has declined for the third consecutive year, and will be the lowest since 1973. However, yields are 33 percent higher than they were back then. World wheat production will exceed 500 million tons for the fourth time in 5 years. Exports are expected to increase significantly in 1987/88, reflecting crop shortfalls in some importing countries, as well as an apparent willingness by a number of countries to rely on imports to meet growing domestic consumption needs. World wheat consumption is projected to exceed production in 1987/88, the first time this has happened since 1980/81. World wheat stocks are expected to fall this year for the first time since 1980/81. Reflecting the overall pickup in demand and tightening world wheat supplies, market prices for virtually all classes of wheat have generally been running above last year's level. This is particularly true for premium quality wheats. However, a look at general price levels or quotes can be quite misleading. As in the past, Canada and Australia continue to sell wheat at well below posted levels, while in the United States, an important share of our wheat exports are moving under EEP with associated export subsidies lowering the effective price.

WORLD WHEAT AND FLOUR TRADE July/June Marketing Year

	<u>1985/86</u>	<u>Preliminary</u> <u>1986/87</u>	<u>Projected</u> <u>1987/88</u>
	<u>--Million Tons--</u>		
EXPORTS			
Canada	16.8	20.8	21.0
Argentina	6.1	4.3	5.0
Australia	16.0	14.8	13.0
EC-10	15.6	16.5	14.5
Sub-Total	54.5	56.4	53.5
U.S.	25.0	28.4	37.0
Other	5.3	6.6	7.3
TOTAL	84.8	91.4	97.8
IMPORTS			
EC-12	2.9	2.4	2.5
Mid. East & N. Africa 1/	10.5	12.5	13.8
Egypt	6.3	6.5	6.7
Mexico	.1	.5	.6
India	.1	.1	.1
E. Europe	3.4	4.2	3.5
China	6.6	8.5	11.5
USSR	15.7	16.0	18.0
Other	38.8	41.3	41.1
TOTAL	84.8	91.4	97.8

1/ Algeria, Iran, Iraq, Morocco, Nigeria, and Tunisia

The outlook for world wheat trade in 1987/88 points to another significant increase --up 7 percent from the 1986/87 level and 15 percent from the

previous year. Expanding feed wheat trade accounted for a significant portion of last year's increase, however, it is expected to be less important in 1987/88. Smaller feed wheat supplies in some countries, particularly Australia and Canada, will result in less export pressure. On the other hand, the EC has large supplies of feed quality wheat this year with the major question being where will they sell it. The Soviet Union has bought significant quantities of EC feed wheat in the past, however, with a near-record coarse grain crop and significant quantities of weather damaged wheat, they may not be as interested in EC feed wheat this year. Eastern Europe is a likely outlet depending in large part on foreign exchange availability and the size of their 1987 grain crops. The EC may also try to expand feed wheat sales into markets such as Korea, where the Australian and Canadian presence may be less than a year ago. The bulk of the feed wheat moving in international markets is suitable only for livestock feed, however, in some cases importing countries have found portions to be millable. As shown in the accompanying table, the EC was the largest shipper in 1986/87 followed by Canada. The major markets for feed quality wheat include the USSR, Eastern Europe, Korea, and Mexico.

FEED WHEAT TRADE
July-June
(million tons)

	1982/83	1983/84	1984/85	1985/86	1986/87 Prelim.	1987/88 Proj.
Canada	.6	.1	.2	1.4	3.9	--
EC	-	-	.1	.4	4.5	--
Australia	-	.4	1.0	.7	.7	--
Others	-	.1	.2	.3	.3	--
Total	.6	.6	1.5	2.8	9.4	7.0
Total World						
Wheat Trade	98.7	102.0	107.0	84.8	91.4	97.8

Developments in a number of major countries have already had --or are expected to have-- some impact on the 1987/88 wheat trade outlook.

China's 1987 wheat crop is expected to fall below last year's high level. The trend of increasing imports to help meet rising domestic demand which reappeared last year, seems to be continuing. In earlier years, China took steps to increase both domestic wheat production and consumption. In more recent years, changes in programs have encouraged production of cash crops in some areas instead of grains. With demand for wheat continuing strong, China is expected to turn increasingly to the import market as evidenced by this year's projected imports of 11.5 million tons, the highest since 1982/83.

Another major uncertainty is the USSR's import intentions. The estimate of the 1987 USSR wheat crop of 80.5 million tons is more than 10 million tons below last year's harvest. In addition, numerous reports were received about a difficult harvesting season which could mean that crop quality is below last year's relatively good quality. There were reports from some oblasts that deliveries of strong and valuable wheat are up from a year ago. However, it still seems likely that import requirements for better quality wheats, including durum, will be up from the 1986/87 level. With a near-record coarse

grain harvest and extremely large barley supplies, it would seem likely that USSR imports of feed quality wheat could fall well short of last year's estimated 5 to 6 million tons.

In India, an unfavorable monsoon has sharply reduced food grain production. Although India currently has large stockpiles, there is uncertainty about the quality of some of these stocks and of India's ability to redistribute them. With world rice prices sharply higher, India could become an important factor in the 1987/88 wheat import market.

Brazil, the Western Hemisphere's major wheat importer, is expecting another good crop. This along with the elimination of consumer wheat subsidies is likely to limit their import requirements again this year to around 2.5 million tons. With Brazil having agreements covering about 2 million tons and given early season purchases from the EC, there appears to be little room for U.S. sales to what has in the past been a significant U.S. market.

In the EC, adverse weather has hurt both the field outturn and quality of the 1987 wheat crop. The 1987 crop is currently expected to total close to the 72 million ton outturn of the past 2 years. However, far more of this year's harvest will fall short of the intervention standards for milling wheat. Significant quantities of bread-quality wheat are still in intervention stocks which could be drawn on to meet domestic needs and possible export commitments. EC import requirements for high quality milling wheat could go up this year, reversing a decade-long decline. However, even if imports increase in 1987/88, it should be a short-term phenomenon. The EC is faced with some interesting export problems in 1987/88. Domestic supplies of feed quality wheat are exceptionally large. At the same time, world coarse grain supplies are relatively large and import demand for coarse grains is likely to show only modest growth. With export competition from coarse grains expected to be intense, the feed wheat export market could shrink this year.

STOCKS

Recent years have seen a significant increase in world wheat stocks. A series of large crops at a time when utilization was expanding only modestly resulted in stock build-ups in not only the major exporting countries but also in some of the principal importers. Over the past 5 years, the major exporters have added over 25 million tons to their stockpiles, while two of the traditional importers, India and the USSR, have also seen a significant increase in stocks. These large stocks have likely added some stability to a world wheat market that has been buffeted by sharply lower price levels and periodic major production shortfalls in some areas of the world.

The absolute level of world wheat stocks can be somewhat misleading if compared with earlier years. As mentioned earlier, a significant portion of this past year's stockpiles are held by a couple major importing countries and, consequently, are not likely to be a factor in the export market but could well affect import decisions. U.S. stocks, which represent the world's largest reservoir of wheat, are in part isolated from the market place because a significant portion are held by CCC or under the Farmer Owned Reserve program.

In recent years, world wheat stocks have ballooned, peaking at 148.3 million tons at the end of the 1986/87 marketing year. As usual, the United States was the single largest stockpiler accounting for over a third of the total.

With projected worldwide demand expected to exceed the 1987 wheat crop, the 1987/88 marketing year will register the first year-to-year drawdown in wheat stocks since 1980/81. Although stocks are expected to decline by some 16 million tons, they will still be the third largest on record.

THE YEAR AHEAD

Worldwide wheat area could well register its fourth consecutive decline in 1988. However, if recent trends in wheat yields continue the 1988/89 world wheat crop should again exceed 500 million tons.

If world wheat prices remain low, and economic conditions continue to improve, world wheat consumption should continue to expand although maybe not at the accelerated rate seen last year. Much will depend on the recent trend toward expanded use of wheat as a feed ingredient. It would seem likely that as long as wheat prices stay near current levels, a number of countries will be willing to include low quality wheat in feed rations.

The recent trend towards countries increasing willingness to depend on imports to cover a significant portion of domestic consumption should continue as long as prices stay attractive and importers can rely on dependable sources of supply. If indeed this happens, the growth in world wheat consumption in 1988/89 could well result in wheat trade close to 100 million tons. This would spell good news for exporters, particularly the United States.

Given the recent upward trend in world wheat utilization, use in 1988/89 could easily exceed the crop by 10 to 20 million tons. Thus 1988/89 would be the second year in a row that world wheat stocks would decline. If adverse weather strikes one of the major grain producers, this gap between production and utilization could widen even more. It would seem that we have reversed the earlier trend of rapid stock building.

What kind of export competition is the United States likely to face in 1988/89? Wheat area in the 3 major competitors, Argentina, Australia, and Canada, could hold at the reduced 1987 level or possibly decline further as farmers seek cropping alternatives to wheat. This could be the likely result of the continued reduction in guaranteed returns to producers. Even if yields are equal to the recent trends, these countries could wind up with less wheat available for the export market in 1988/89. Of the three countries, Canada could probably come closest to maintaining recent export levels as they still have significant stocks to draw upon.

The EC is another story. Area is likely to be little changed in 1988, and yields could climb back to trend levels. This would likely result in near record supplies at a time when other countries are showing a significant degree of production restraint. These large supplies would likely result in lower internal prices and more pressure for wheat to move into intervention. These lower prices could also result in smaller export restitutions and less budget outlay. However, if one assumes that the EC shows some restraint on export subsidies and the United States maintains an aggressive EEP policy to counter EC policies, EC wheat exports might increase only modestly from the 1987/88 level.

U.S. wheat program provisions affecting the 1988 U.S. wheat crop have already been announced. Continued heavy acreage set aside requirements and another reduction in the price support loan level should result in a wheat crop not

much different from the 57 million tons of the past 2 years. Domestic use is likely to again approach 30 million tons. This suggests that if the United States is to meet its share of 1988/89 world wheat trade, another significant drawdown in stocks is likely. In fact, if world wheat trade approaches 100 million tons, U.S. wheat exporters could be called on to supply the world with close to 38 million tons of wheat. This would mean another significant drawdown in U.S. wheat stocks.

A strong export demand and another drawdown in stocks should result in another year of wheat prices above the loan. How much above the loan will depend on not only the extent of the increase in demand and stocks drawdown but on government policies regarding access to CCC inventories.

1987/88 WORLD RICE TRADE SITUATION AND OUTLOOK

As for rice, a forecast of sharply tightening supplies in South and Southeast Asia, largely due to poor crop expectations, colors the world trade picture in calendar year 1988. World rice trade for 1988 is currently forecast at 10.2 million tons (milled basis), the lowest level in 10 years and about two million tons less than the estimate for this year. Although the United States should capture some of the resulting unfulfilled import demand, this development comes at a time when U.S. year ending stock levels are projected to be the lowest in seven years.

Drought conditions in several key rice exporting countries and sharply higher prices are the primary cause of the lower 1988 trade prospects. Most notably, Thailand, which has averaged over 4 million tons of shipments over the past four years, is forecast to export less than half that volume in 1988 (1.9 million tons) because of late and sporadic monsoon rains.

In light of the situation in other exporting countries, the United States could return as the world's leading rice exporter in 1988 for the first time since the early 1980's with exports forecast at 2.6 million tons.

Pakistan's export availabilities are also forecast to decline partly due to a drought affected crop and partly to near-record exports this year which will reduce carry in stocks for 1988. China, which has apparently been spared the worst effects of this year's weather, is expected to capitalize on export opportunities by increasing shipments slightly to 1.2 million tons. Although Burma's crop also seems less affected by drought, recent agricultural policy changes are likely to limit exports to no more than 500,000 tons, the same as this year.

Although several questions remain on the import side of the world trade situation and outlook, many traditional rice importing countries will be squeezed, and substitution of more available and favorably priced food staples, such as wheat, will occur where possible. African and other countries with foreign exchange limitations are likely to be affected the most.

The large Middle Eastern importers such as Saudi Arabia, Iran, and Iraq will continue to be among the top importing countries, although Iran and Iraq may buy less due to large purchases in 1987 and partially rebuilt stocks. Bangladesh, which suffered severely damaging floods this year and already has had to buy close to 1 million tons, will again require some imports in 1988.

The gray area for world rice imports next year includes, foremostly, India, Indonesia, and the Philippines--all countries which became self-sufficient in rice production in recent years, but which have not escaped the effects of drought this year. India, the hardest hit producer, currently enjoys large rice stocks and can substitute wheat and other grains to a certain extent. At this point, rice imports are not anticipated for India in 1988. The status of Indonesia and the Philippines is less certain, but some imports may be necessary to offset any potential production shortfalls.

In sum, the world situation and outlook for rice is one of extremely tight supplies, somewhat increased import demand, and low ending stocks for 1988. World stocks are forecast to decline to about 16 million tons by the end of 1987/88, the lowest level since 1974/75.

U.S. RICE SITUATION

For the third year in a row, U.S. production has declined. Acreage harvested has dropped from 2.8 million acres in 1984/85 to 2.32 million in 1987/88. High participation in Government programs, which has required up to 35 percent of base acreage to be removed from production, has been responsible for this downturn. While acreage has declined, yields have moved rapidly upward during the 1980's because of adoption of higher-yielding varieties although yields are down this year.

U.S. rice production for 1987 is forecast at 129.4 million hundredweight (cwt), down from 134.4 in 1986. Most of the decrease was in Arkansas and Texas. While short grain production is forecast up 8 percent, medium grain is down 3 percent, and long grain output is expected to fall 4 percent.

Carryin stocks on August 1 were 29 percent lower than a year ago. In 1986/87, supply was up 6 percent from a year earlier, but use increased 28 percent. Lower prices as a result of the marketing loan program increased U.S. competitiveness on the world market (1986/87 exports up 46 percent) and helped to stimulate domestic demand. With lower production and carryin stocks, estimated 1987/88 supply is down 13 million cwt to 187.1 million.

Relatively low supplies combined with strong demand will likely cut carryout stocks an astounding 45 percent to about 30.1 million cwt by the end of the 1987/88 marketing year, about equal to the 30 million cwt targeted in the 1985 Food Security Act as the level necessary to maintain adequate supplies for domestic and export utilization.

The full impact of the marketing loan, which drastically reduced prices, was felt in 1986/87 when total use increased by 28 percent. In 1987/88, total domestic and export use is forecast to decrease slightly because of higher prices and tight supplies. On the export side, higher prices may hamper world trade, and tight supplies, especially long grain rice, may limit U.S. exports. While some medium and short grain rice is expected to be substituted for long grain it probably will not be sufficient to offset the projected decline in long grain exports. Domestic use dramatically increased in 1986/87, but will be competing with exports in 1987/88.

The outlook for 1988/89 is particularly uncertain at this time. Provisions of the 1988 rice program, including acreage reduction requirements and target prices and loan rates, will be announced shortly.



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MAJOR ISSUES IN WORLD FOOD GRAINS TRADE

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The world market for food grains has been very volatile since the late 1960s. The major characteristics of the market in recent years have been:

- static trade volumes;
- depressed real prices for traded grain;
- a widening gap between prices obtained from the world market and those received by producers in most exporting countries and also in some important importing countries;
- large accumulations of stocks in exporting countries; and
- much increased government expenditure on support for grain growers.

Such conditions are in stark contrast to those in much of the 1970s which were characterised by rising trade volumes, buoyant market prices, some concern about the adequacy of stocks and lower levels of government support. In fact, many of the problems encountered recently have their roots in the expansionary climate of that period.

There are a number of factors that interact to determine the volume of grain traded and market prices at any time. They include income and population growth; macroeconomic factors, especially exchange, interest and inflation rates; government policies; technological advances; and the weather. The interactions are complex and it is not just current macroeconomic and economic growth conditions and policies that have an impact. Past conditions and policies, and expectations of future conditions all help to mould the situation.

In this paper the emphasis is on the medium and longer term outlook for the world market for food grains and the links between that outlook and reform of national grain policies and macroeconomic factors.

The short term outlook

An Australian perception of the outlook for food grains is dominated by expectations of world price changes and developments in exchange rates. That perception arises from Australia being heavily dependent on exports and

being fundamentally a price taker on world markets. Unlike the United States or the European Community, Australian policies can have little impact on short term market outcomes.

In the coming year and into 1989, world wheat prices should recover somewhat from the very depressed levels of the past year and a half. The immediate prospect is for a significant reduction in stocks held by exporting countries because of poor seasons in some countries and the impact of recent low prices on plantings. Relatively unfavourable seasonal conditions reduced crops in Western Europe in 1987 to well below expected levels, while production in the USSR was also adversely affected. And dry conditions are likely to reduce the size of the coming crop in India. Plantings in Australia and Argentina have declined markedly because of the extremely low world prices in the past two years.

In Australia, the process of adjustment to these low prices, although painful, has been facilitated somewhat by the availability of alternative enterprises, primarily wool production, which is currently relatively profitable, and grain legumes. Government underwriting arrangements for wheat, which support prices at 95 per cent of a three year moving average, provided support in one year, 1986-87. Even in that year, the support was equivalent to only a fraction of that provided in the European Community, the United States and Canada.

The duration of the expected increase in world grain prices will depend on the degree to which current lower production is a function of adverse weather or a response to economic conditions. If it is largely a result of seasonal conditions, it will be relatively short-lived, provided more normal conditions follow. However, if it is indicative of fundamental economic forces, it could be more sustained. In any event, the extent of any recovery in prices will be influenced by the rate at which the United States moves its excess stocks onto the market.

For rice, the short term outlook is relatively buoyant because of a poor season in several Asian countries, especially India and Thailand, and last year's rundown in US stocks.

Longer term influences

Key influences on market prices and trade of food grains in the medium to long term include:

- the impact of the depressed prices in the mid-1980s and reduced investment in developed countries since 1980 on production in the next few years (the depreciation of farm equipment and structures in the United States, for example, has markedly exceeded gross capital expenditure in each year since 1981 - see Lee 1986);
- technology changes in exporting and importing countries;
- rates of income growth, mainly in developing countries; and
- policy changes in exporting and importing countries.

The combination of depressed prices in the mid-1980s and reduced investment in grain growing in exporting countries since 1980 could restrain production over the next few years. Wheat production in exporting countries has been declining since 1984 and it may be that the rundown of capital stocks is having some impact. US output has declined with significant reductions in plantings under government programs in recent years. In the European Community, lower production than the peak of 1984 can be attributed partly to seasonal factors. But there have been continuous gains in production technologies which could offset the effects of lower on-farm investment and recent depressed prices.

Income growth rates have been highly variable throughout the 1980s and there is considerable uncertainty about growth rates in the next few years. Much of this uncertainty arises from the economic imbalances that have arisen in the macroeconomic settings in the major industrialised economies. The problems associated with the large US budget and current account deficits on the one hand and the large current account surpluses of Japan and the Federal Republic of Germany on the other are of particular concern. The effect of loss of confidence associated with these imbalances has been all too evident on stock markets recently. As yet, there is uncertainty about what the implications of the stock market slump will be for economic growth and consumer demand which will influence the demand for grains.

The extent of income growth in developing economies has a particularly important impact on world import demand for food grains as these economies constitute such a large proportion of the market and their demand is relatively income responsive. In many developing countries there are close links between their income growth rates and their international debts, exchange rates with major industrialised countries, interest rates on their debts and trade opportunities with industrialised countries. Consequently, their ability to manage and coordinate macroeconomic policies and the degree to which the industrialised countries enable developing countries to penetrate markets for industrial goods will influence their income growth and demand.

Another factor that will significantly influence future world import demand for food grains, in particular wheat, will be changes in world prices for oil. The changes in purchasing power that have accompanied the transfers of wealth to oil exporting developing countries have had an important influence on aggregate import demand for grain. Also, much of the hard currency earnings of the USSR is derived from sales of oil and gas, which would affect its capacity to purchase grain.

National policies and the extent to which they might be reformed will have important influences on world trade and prices, and the competitiveness of grain from various countries. The relevant policies encompass not only agricultural policies but also macroeconomic policies. The environment in which agricultural policies are developed is shaped largely by macroeconomic forces. In the 1980s, farmers have been buffeted by large changes in exchange and interest rates that have induced periods of hardship and had significant effects on market shares held by various countries. The variability in exchange and interest rates, in conjunction with the notion of 'reasonable' market shares, has played an important role in the present situation of wheat exporters competing through subsidies. Much of the

variability in interest and exchange rates is associated with the far freer and more integrated financial and currency markets that have developed in the 1970s and 1980s together with imbalances in macroeconomic settings in the major industrialised economies. It is important to resolve the fiscal and monetary imbalances between the major industrialised countries, both to sustain confidence and economic growth and to forestall any slide toward bilateralism and protectionism.

Problems with policies

The market forces that, over time, would bring about the adjustment of supplies to effective demand are being heavily filtered by national support policies. Farmers in most countries are currently receiving prices that bear little relationship to the prices for which their products are being sold. The signals that they receive to tell them what they should be producing are determined more by governments than by the market.

However, government decisions are constrained by electoral and other political forces and lag behind the need for adjustment that becomes readily apparent from market price signals. As a result, in the 1980s agricultural support policies have caused rapidly rising budgetary outlays and consumer transfers. In the United States, where most support is through the budget, net outlays by the Commodity Credit Corporation on programs for wheat and rice last year were US\$3.8 billion. This compares with farmer cash receipts from food grains of only US\$5.9 billion. The support provided by the European Community and Japan is less transparent, with large outlays by domestic consumers through inflated prices as well as substantial budget payments. In these countries, transfers to producers as a result of government policies represent an even larger proportion of producers' total returns. The large budgetary outlays are contributing to difficulties in deficit control and financial management. Large budget deficits and associated trade deficits in some countries and trade surpluses in others are contributing to the general instability of the world trading and financial system.

Such has been the extent of government intervention in food grain industries in some countries that some economists are questioning whether any of the benefits that should be derived from trade in food grains are in fact being obtained by those countries. For example, Schmitz, Sigurdson and Doering (1986) concluded that there could well be no gains to the United States from trade in wheat. The benefits that should arise are widely known and acknowledged and rest on the principle of comparative advantage under which all participants in trade gain through greater specialisation in what they produce most efficiently. Market prices are the medium through which the signals regarding what producers can most efficiently produce are transmitted.

Because many governments support prices well above world market prices, extra resources are channelled into those countries' agricultural sectors. This is at a cost to others in their economies and at a cost to the economies as a whole. Those costs have significant implications for economic growth and employment. For example, a recent study by Breckling, Thorpe and Stoeckel (1987) concluded that agricultural protection in the

European Community has led to a loss of employment of about 1 million persons.

Price support, the main form of national support for agriculture, is usually a very inefficient way of providing income support. This is simply because the amount of support to each producer is proportional to the amount produced. Providing support to owners/operators of large efficient farms stimulates production, thereby contributing to the tendency to overproduce. Smaller units receive less support in total, so problems of financial stress are often only partly alleviated.

Government support becomes capitalised into the values of fixed assets, particularly land. This can lead to one-off gains for those fortunate enough to own agricultural land when the support is introduced. But once that support is capitalised into land values it adds to the cost structure of production. It also results in more intensive use of both physical and financial inputs than would otherwise be the case. And service industries as well as the supported industry become dependent on the support being maintained. The costs to the community associated with these distortions can be large. But the social costs of dismantling the support can also be large.

The motivations to reform policies arise from the perceived increases in welfare that such reform can give. However, welfare gains globally or nationally may not, in some instances, coincide with gains for certain groups such as farmers or consumers. To provide a strong incentive to reform policies through international cooperation or agreement requires the parties to believe that the gains will outweigh the costs. Liberalisation of trade and reductions in subsidies move countries in a direction whereby the gains that arise from the exercise of comparative advantage can be realised. But changes can involve costs to certain groups which may have great political influence. It is this factor, in conjunction with strong agricultural fundamentalist values nurtured in many countries, which restrain policy reforms - be they autonomously developed within a nation or the outcome of international negotiations.

Alternative approaches to policies

There is now wide acceptance that there are global structural surpluses in major agricultural commodities including wheat and that many of the problems of supply-demand imbalances are caused by the interaction of market forces with national subsidy and protection policies. Such acceptance of the problem is evident from the economic declarations of the 1986 Tokyo Summit and the Ministerial Declaration on the Uruguay Round (see Miller 1986, pp.112-13). Also, the Ministerial Declaration indicates that 'negotiations shall aim to achieve greater liberalisation of trade in agriculture and bring all measures affecting import access and export competition under strengthened and more operationally effective GATT rules and disciplines'

While it is generally acknowledged that there is a problem, different governments have different approaches that they consider desirable for treating it. Governments have different philosophical approaches to agricultural policies and their reform because they have been conditioned by entrenched community attitudes, historical developments, and political and institutional factors. Where governments have taken much direct

responsibility for the welfare of farmers and rural communities, and political power bases depend significantly on maintaining high levels of support, there are strong elements supporting the status quo. But even these governments are concerned about the high budgetary costs and management difficulties associated with their support policies. Such governments, prominent among which are those for the European Community and Japan, tend to favour managed rather than market based solutions to market imbalances. By the nature of political compromises, such managed solutions never overcome the fundamental problem. They provide a temporary easing of a market imbalance. The history of international commodity agreements, which constitute the most direct form of managed solution, has shown that they often contain the seeds of their own destruction. The present and now solidly entrenched imbalances in the European Community is another example of how a managed market 'solution' can be very costly to the countries involved and to others as well.

The United States is in an intermediate position in terms of its approach to policies that bring about adjustment of supplies to market requirements. Its systems for adjustment rest heavily on government incentives to divert land from production at times of surplus, with substantial income support tied to the land diversions. However, producers' co-operation in the programs is voluntary. The land diversions are necessary to lessen the tendency for supply excesses that flow from the high support prices, the object of which is to provide income support. Given the high level of government involvement in various area diversion programs, US policy makers can rightly claim that they are pursuing measures to limit supply imbalances. Data on the US area planted to wheat since the peak plantings in 1981-82 reveal that to 1987-88, the area planted fell by 26 per cent. In Australia, the reduction from its peak, reached in 1983-84, to 1987-88 was 31 per cent. That reduction took place predominantly in response to the decline in market prices. Between 1981-82 and 1987-88, real market prices to producers of wheat in the United States declined by an estimated 45 per cent. Such a reduction would no doubt have resulted in a substantial reduction in US plantings and production, though it is uncertain whether the reduction would have been more or less than actually occurred as a result of managed adjustment.

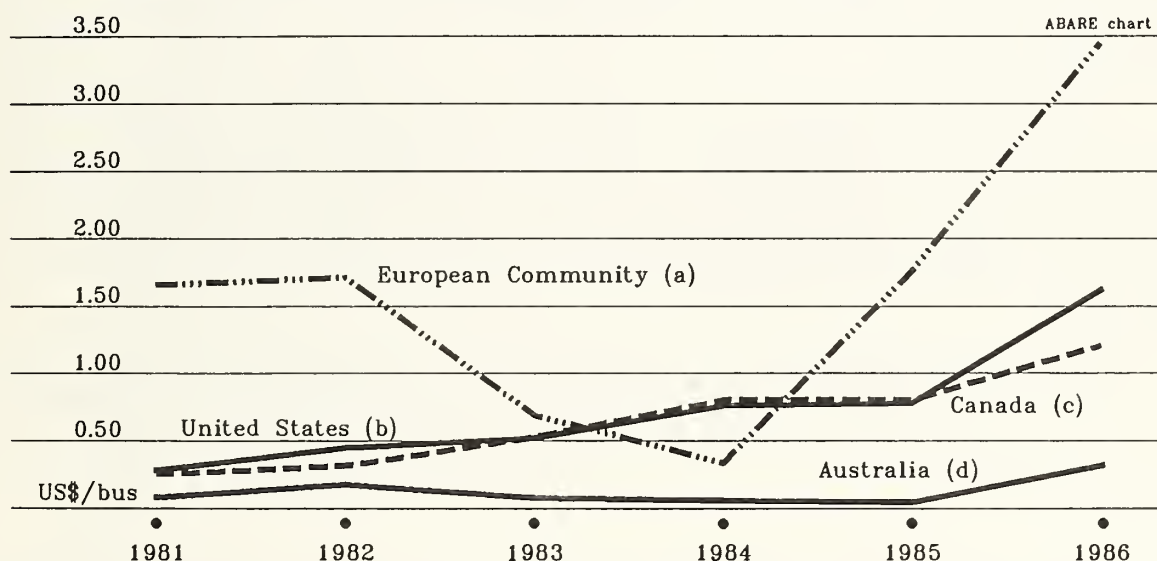
The important point is that, in a regulated system, government decisions are seen to be responsible for the adjustments, which are not necessarily more than those that would have occurred in response to market prices. They may even be less. In effect, countries where producer prices are basically those received from the market have their own builtin production adjustment mechanisms. Such mechanisms can be more efficient and far less costly than area adjustment incentives alone, as the effect of these can be significantly offset by more intensive use of other resources.

The kinds of regulation and support that governments employ to support their industries are extremely varied. These involve, to mention a few, output and input subsidies, border measures including tariffs and export subsidies, special taxation concessions and state trading monopolies to govern supplies and regulate prices. This diversity presents special problems for identifying the effects of government policies on world trade and prices. It is important to identify and quantify these effects for

negotiations if the supply-demand imbalances are to be successfully addressed.

When considering the features of national policies that actually distort trade flows and prices, time and effort should not be wasted in pressing for changes to elements that are not distortionary. One such Australian element criticised by US government and industry representatives is the 'monopoly' power of the Australian Wheat Board. That body is a grower financed body whose function is to sell wheat, and the returns it obtains from the market directly influence growers' production decisions. So Australia is sensitive to such criticism. Government support in Australia is far lower than in the United States, the European Community and Canada (see figure 1), and the Australian Wheat Board exerts far less monopoly power influence over world prices than the US Commodity Credit Corporation.

Figure 1: Levels of government support for wheat



- (a) The difference between internal market prices for bread making wheat and export prices.
- (b) Support to program cooperators through deficiency payments, disaster payments and farmer owned reserve storage payments, after deduction of adjustments for limits to per person payments, for the rental value of land set aside, and for Gramm-Rudman cuts where applicable.
- (c) Includes net payments under the Western Grains Stabilisation Act and federal and provincial assistance in crop insurance programs and freight and transport subsidies.
- (d) Includes support through discriminatory pricing arrangements, export incentives, export inspection services, price stabilisation funds and underwriting arrangements, natural disaster relief, and interest subsidies to the Australian Wheat Board in 1981 and 1982.

It appears that the real concern US interests have about the competitiveness of countries such as Australia stems from the inflexibility of US support and selling systems. In particular, the level and inflexibility of US loan rates in the first half of the 1980s, in conjunction with the appreciating US dollar, resulted in a marked decline in US sales - a decline that was not matched by program related production restraints. The inevitable outcome has been that the highly subsidised US production from that period is now depressing market prices and greatly contributing to large adjustment pressures in Australia and elsewhere.

Since 1985, the United States has moved to overcome the inflexibility in its pricing. However, it has not done this in such a way that US producers are exposed to the effects of the lower world prices to which US pricing policies that are more flexible on the down side have contributed. It has done it through extra subsidies (the export enhancement program) and through larger deficiency payments to growers. These extra subsidies, which represent a means for the United States to reduce large accumulated government stocks, constitute part of the competitive subsidisation that currently characterises world trade in wheat.

The road to reform

As already mentioned, there is consensus that there are currently global supply-demand imbalances in markets for agricultural products including grains. Each country is addressing those imbalances and their effects in its own national policies. But it is a global problem and individual countries are concerned that their own efforts to restrain production should not be negated by the stimulatory effects of others' policies.

Against this background, it is likely that a cooperative or negotiated approach to overcoming the global imbalances would be more fruitful than uncoordinated national approaches. At present the focus of efforts to overcome the imbalances is on the Uruguay Round of multilateral trade negotiations.

While it is generally agreed that substantial reform is necessary, there is a wide gap in the perceptions of different parties of the best ways to approach the negotiations and to attain the reforms. This gap reflects the different philosophies and levels of government intervention in different countries, as mentioned earlier.

A number of parties have proposed approaches for negotiating reform under the Uruguay Round. These approaches have come from the United States, Canada, the European Community, Switzerland and the 'Cairns group' of agricultural exporting countries. Generally they acknowledge the need to reduce protection and to improve the rules governing trade. The proposals from the United States and the Cairns group might be considered more radical in the extent of liberalisation sought. Both seek phased reductions in support, with elimination within ten years. The Cairns group proposal seeks an initial freeze on protection, then progressive liberalisation, with the first measures to be addressed being the most disruptive - export subsidies and variable levies. Both advocate a similar approach to monitoring levels of support, the favoured indicator being the producer subsidy equivalent

under which all support for a particular commodity is aggregated. The Canadian approach is similar, but it favours a trade distortion equivalent as the support indicator. The European Community proposes a more managed arrangement, with emphasis on market sharing, at least in the short to medium term, and reinforcing the rules governing agricultural support and trade while reducing levels of protection. All the main proposals allow for relatively trade-neutral support measures such as certain direct income supports.

While the differences between the proposals of various parties are clearly wide, the inclusion of agriculture in the Uruguay Round is itself an important advance and represents an acknowledgment that something should be done.

An important agreed element of the proposals is the need to permit direct income supports that do not distort trade significantly. Many countries might countenance marked reductions in present price and other distortionary support, but only if other means of support that is less distortionary were permitted. Direct income supports are acceptable because they enable income support to be decoupled from the incentives to stimulate production that are inherent in price support and other distortionary arrangements. In principle, such supports should be fairly production neutral. In practice, though, there may be considerable difficulties in designing systems for supports that meet the requirements of being relatively production and trade neutral and being politically feasible. Consequently, care will need to be taken with the design of such measures if they are to stimulate production less than do present arrangements.

The United States is in a special position of influence in the Uruguay Round because of its central role in the world market for grains. Its market power, from its size as a producer and exporter, means that unless it makes substantial reforms itself, others are unlikely to do so.

Conclusions

Following the very depressed conditions in recent years, the short term market outlook for food grains is somewhat improved. The substantial stocks of wheat that have been, and still are, overhanging the market, are likely to be significantly reduced and some increase in market prices is expected. For rice, market prices have increased significantly and stocks have been run down.

The expectations of improved market conditions in the coming year result largely from adverse seasonal conditions in certain major producing countries. Such conditions are transitory and can mask many of the structural problems that still exist in the agricultural sectors of many countries and in agricultural trade. Furthermore, there is uncertainty about the possible effects of the recent stock market slump. It is important, therefore, that the momentum for policy reform that has gathered in recent years be maintained.

The structural problems in world markets for agricultural products can be solved only by radical changes from now strongly established support policies. Even the most trenchant supporters of present arrangements are

being forced to acknowledge the high costs to their own countries and to others of the present high levels of government support and the inefficient mechanisms by which that support is being delivered.

The food grains industries have, in recent times, been at the forefront of international frictions over agricultural surpluses.

It is generally acknowledged that there are major structural problems in world agricultural trade as a result of government policies. But strong vested interests in many countries are working to limit the effectiveness of both national and international efforts to liberalise trade and reform. In the case of food grains, particularly wheat, reform of national policies and of the international trading framework will depend crucially on the vigour with which the United States assumes leadership and the preparedness of the European Community to enter into the spirit of reform. These countries are the main participants in the current competitive subsidisation and, as national entities, have a great deal to gain from effective reform. The effectiveness of reform will depend on the degree of liberalisation and the extent to which support can be decoupled from incentives to overproduce.

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ANNUAL AGRICULTURAL OUTLOOK CONFERENCE

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GENERIC CERTIFICATES

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Generic certificates are the most significant agricultural policy development tool in, at least, the past decade. What I will examine, in this paper, are some of the major policy issues and impacts of generic certificates--a program affecting billions of dollars of Commodity Credit Corporation (CCC) outlays, billions of bushels of grain and billions of dollars of farmers' income. This paper will provide needed additional insight into the program. New perspectives are needed because the generic certificates program has been implemented with limited guidance from either the Congress or the general public.

Generic certificates were designed to both meet farm program outlay requirements and to prevent a recurrence of the problems associated with the 1983 Payment-in-Kind (PIK) program. However, the actual focus of certificates has been on the major initiative of the 1985 Farm Bill, which was to make U.S. commodities more competitive. Price supports, beginning in 1986, were reduced legislatively. This allowed for a change in the nearly 20 years of uninterrupted price support increases. In 1965 the wheat loan declined from \$1.30/bu. to \$1.25/bu. The loan rate for corn a year later was dropped from \$1.05/bu. to \$1.00/bu. In 1986, the wheat loan declined from \$3.30 to \$2.40 and corn from \$2.55 to \$1.92. The 4.3 percent Gramm-Rudman-Hollings (G-R-H) cut reduced the effective loan further. In fact, the season average price for corn in 1986 was nearly 40 cents/bu. below the loan rate, an unprecedented difference. Certificates allowed an additional decline in prices without harm to farm program participants. However, the impact of certificates on prices to farmers is but one of several issues to be discussed.

The certificate program has been operating for 1 1/2 years. My discussion of certificate policy will be separated into four categories--farmer issues, market issues, Congressional issues and U.S. Department of Agriculture (USDA) issues. My concluding observations will center on the future of the certificate program.

Farmer Issues

The first issue is that generic certificates have significantly increased

opportunities for farmers to increase their income. This has been done in several ways.

By using certificates to exchange for loans prior to maturity, farmers can avoid interest and storage costs. With the posted county price (PCP) below the county loan rate, increased income is possible. Farmers are able to receive full loan benefits without carrying the loan to maturity. The flexibility for farmers to either carry the grain or sell it immediately after loan exchange has added 20-30 cents per bushel return to the farmer not previously available through the loan program.

A number of farm program participants have been eligible for the nonrecourse loan, yet have never used the loan. Certificates now allow these farmers, who were feeding their grain and could not profitably redeem grain from under loan for the full amount plus interest, to profitably place their grain under loan and feed it. Previously, they participated in acreage controls, and received deficiency payments, yet were effectively disenfranchised from participating in an important part of farm program benefits.

Once these producers who were eligible, but not using the loan, began taking out loans and exchanging them with certificates, concerns over "recycling" surfaced. Recycling is a measure of the additional volume of commodities placed under loan because of certificates. Certificates unquestionably have increased the volume of commodities going under loan. There is also no question that generic certificates have provided increased incentives for a substantial number of farmers to participate in government loan programs.

Farmers increased their income through selling certificates issued to them and pocketing the premium. This benefit was even more pronounced in 1986 because G-R-H cuts did not apply to certificate issuances.

Another farmer certificate issue has been the greatly increased need for farmers to become more skillful in marketing their commodities. Certificates have added a new element to commodity marketing. They have placed much more flexibility into farmers' hands to market their commodity, even if under loan. This means farmers must be aware of not only whether it pays to redeem a loan or not, but the size of certificate premiums, the PCP-cash spread, if any, and the spread between PCPs and the loan. This marketing emphasis is a new twist. This means farmers can enhance their income as much from careful marketing and minimizing expenses as from maximizing production and simply selling grain to the Government. Perhaps the issue here may actually be that farmers now need to be aware there is more to improving the bottom line than only maximizing output.

There is one final farmer issue of enormous significance--farmers no longer are as adversely impacted by lower prices as they once were. Low commodity prices are, actually, an advantage to certificate holders. Certificates are dollar denominated and the profit potential is on each bushel of grain redeemed--the lower the price of a commodity, the greater the number of bushels exchanged with certificates. We are frequently contacted by farmers who complain the PCP is too high and they can't PIK-and-Roll. The request is

to reduce PCPs. I believe that the desire by some farmers for low prices, is unprecedented. Such an attitude certainly allows greater latitude for farm programs to be managed in a fashion so as to assure U.S. grain is competitively priced.

Market Issues

The first market issue is that certificates mean the loan rate is no longer a price floor. Thus traditional loan economics have been dramatically altered. Because loan rates are no longer a floor as a result of certificates, certificates may appear to be a marketing loan. While certificate use has many of the effects of a marketing loan, it is definitely not a marketing loan. The amount of certificates available places definite constraints on program activities, and tends to limit downward price pressure. Certificates are certainly less expensive than a marketing loan. Certificates have also muddled traditional commodity price relationships when we consider that oats are trading at a premium to corn, and soybeans are priced 3 times greater than corn. Loan rates for these commodities have been established based on certain nutritional feed relationships. The loan then underpinned the price relationship and perpetuated traditional commodity price relations. These relations have been altered with certificates.

Certificates tend toward a price disequilibrium, rather than toward a price equilibrium. As prices decline below the loan, the price decline may accelerate as more certificates are used to capture the loan-PCP spread. Once exchanged, these commodities are free to be sold immediately. Such immediate sales may depress the PCP further, encouraging even larger numbers of loans to be exchanged with certificates. Selling into this market tends to quicken its decline.

Conversely, as prices rise toward the loan rate, the rate of increase may decelerate as fewer bushels are exchanged with certificates. This means loan stocks remain high. Higher prices hovering near the loan level could then have the effect of reducing farmer selling, rather than encouraging it.

Another additional market issue deals with uncertainty--like what is CCC going to do today? One can't deny that the USDA has considerable control over the certificate program. Consequently, some advocate that because CCC can do many things with certificates, it should publicly lay out specific operational guidelines--what price CCC is looking for, how much grain does it want on the market, etc. Most people in the commodity oriented business want some stability so they may make business plans, and operate accordingly, without surprises. Yet, in following the market, CCC will have surprise adjustments, just as the market does. But, CCC adjustments will tend to be lumpy, rather than fluid. CCC can't adjust as easily as the market does. This is true, particularly of small, discrete market adjustments. Consequently in adjusting to reflect market conditions, CCC will sometimes make what appear to be abrupt changes. Therefore, this should be expected as CCC attempts to follow the market. Basically, CCC wishes no role but to establish PCPs as close to market prices as possible.

Another certificate market issue is the re-emergence of carrying charges to the market. Before certificates, the market tended to maintain an inverse, bringing the cash price up enough to redeem loans. The job of the market was not so much to carry inventories but to form the basis for cash redemptions. As carries come back to the market and the nearby futures prices become more than a loan redemption benchmark, there will be implications for storage income. Combining less inventory, particularly CCC inventory, with increased farmer flexibility to market grain, certificates may well make the elevator industry more competitive.

A final market issue is the increased marketing opportunities for merchandisers. Just as certificates have opened a new path for farmers to enhance their income, so too have merchandisers gained a new income opportunity. The trade of certificates is brisk and the arbitraging opportunities are numerous. The unfortunate aspect of this is that merchandisers may change their focus from current markets to the certificate program.

Congressional Issues

It is the lack of checks and balances, for a program popular with constituents, which has created some Congressional unease. Too much of a good thing may be dangerous. Certificates' popularity may eventually prove their undoing, particularly as budget constraints become tighter. That is, with fewer dollars available for spending, certificates become a more popular "non-dollar" tool for program funding of selected programs, such as the Export Enhancement, and Targeted Export Assistance Programs.

An additional certificate potential issue is the lack of regulatory oversight. USDA is the sole regulator of the certificate program. Being both the regulator and regulatee may generate some concern. However, the program is fully functioning and the users of the program are pleased with its administration. The need for regulation is not yet apparent to the market.

USDA Issues

An important issue to CCC is the cost-saving features associated with the use of certificates. While it is recognized that the use of certificates may result in additional loan activity, their use in allowing producers to exchange commodities pledged as loan collateral that would otherwise have been forfeited to the CCC has resulted in substantial savings to CCC in storage, handling, and transportation costs. These savings extend to Farmer-owned Reserve (FOR) and CCC inventory. Overall, of course, the use of certificates does not create additional storage space. Certificates are a method which producers and grain warehousemen can use to solve their own problems, and together help meet storage demand. The problem is solved by market driven forces in a much more efficient way than if the entire storage problem were dependent upon a massive and expensive CCC shipping and reconcentration program. The use of certificates permits commodities to flow from areas of low price and limited storage availability to areas of greater storage availability and higher prices.

In addition to better inventory management, certificates have also formed the basis for adjusting county loan rates. While 1987 county loan rates do not fully reflect market prices in all counties, changes in 1987 loan rates to more fully reflect local market conditions would have been enormously more difficult without the pricing system implemented to run the certificate program. Over time, county loan rates will continue to be adjusted as market forces change, and should better reflect local market prices.

An additional USDA issue is the ability of CCC to manage its inventory and, in doing so, to assure continued liquidity at competitive prices in the market for commodities. The recent opportunity for people to bid on CCC inventory and redeem that inventory with certificates highlights this issue.

It is in the area of pricing, or establishing redemption values (PCPs), that the greatest overall policy issue facing CCC may center. USDA has employed considerable resources in order to reflect market prices, as closely as possible, in establishing redemption values. Based on daily market prices, USDA establishes over 10,000 redemption values throughout the country. This is an enormously difficult task, but one we have done rather well. There are instances when the fact that USDA is not the marketplace becomes apparent. If we are off the market, the system does not adjust itself. There is no feedback in the daily pricing system. Consequently, if the basis changes in one terminal market because of, say a longshoreman strike, USDA must manually adjust its pricing system. This means the changes are not smooth, as most price changes are, but are lumpy. They don't flow as smoothly as the market. But they do move with the current of the river of grain.

The enormous influence USDA has on the markets may become like catnip to some. It will be difficult to resist playing with the system. The pressures are constant and enormous to use the certificate pricing system to achieve certain parochial short term goals--encourage exports, discourage exchanges of one commodity in favor of another, encourage storage, encourage use. To date, the USDA has been very steadfast in its ability to resist manipulation in its certificate pricing system. Over time, pressures and requests will change, but the catnip of adjusting PCPs to achieve some short term goal will remain. Once the USDA sets the course of adjusting PCPs for short term goals, the certificate program's effectiveness has ended and its days quickly become numbered. As I said earlier, and I wish to repeat, the seductive nature of adjusting PCPs is one of the greatest threats to the certificate program's continued success.

Outlook

Certificates are not intended to be an institutionalized program. They are used to meet certain needs and those needs have changed, and will continue to change. During the Outlook Conference, you may note a significant change in the commodity situation over the next several years.

Briefly, if the commodity scenario unfolded along the lines of our projections:

- Upland cotton and rice stocks would continue in balance.
- Wheat use would exceed production, bringing stocks closer into balance.
- Corn supplies, although large, would continue to decline. Ending stocks would be held at about 3.8-4.0 billion bushels.
- Season average prices would strengthen well above the loan rate for wheat, but average only slightly above for corn (as loan rates continued to be reduced).
- A large proportion of wheat ending stocks would be tied up in the FOR and CCC-inventory, with high release/sale prices well above market prices.
- A large, and increasing, proportion of corn ending stocks would be tied up in CCC-inventory; high release/resale prices would be well above market prices.

Clearly, if the above were to develop, it would have a dramatic influence on the certificate program and policy. The need for certificates to assist in alleviating tight storage situations would have largely abated with lower aggregate grain stocks. As loan rates decline over the next few years, market prices will increasingly be above the loan so there would be a disincentive to use certificates to exchange corn, and more so wheat, from price support loans--except with a discount from the face value of the certificate. Such a situation would mean certificates gradually fade away. Yet, substantial volumes of wheat and corn may have to be freed from regular loan, FOR and/or CCC-inventory positions if the U.S. intends to be fully competitive in world markets and meet our share of such demand. The unique ability of certificates to do that has been demonstrated.

The implications of this changing environment for the certificate program policy are tremendous:

- Should certificates continue to be issued to feed grain, wheat, rice and upland cotton producers? Only to wheat and feed grain producers? Only to feed grain producers?
- Should some portion of certificates issued be commodity specific rather than generic? If so, how much?
- What volume of certificates would be appropriate under varying prevailing supply-demand-price conditions?
- Should requirements for utilizing certificates be modified? If so, how?

These are some of the obvious certificate issues that we may well need to address in the not too distant future. We do not have answers at this time.

But it is critically important that we begin to focus on the future in order that sound analyses and timely recommendations can be provided to policymakers. It is vital to producers, to the trade, and to taxpayers that the certificate program be administered as fair, equitable and efficient as we can design it.

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Outlook '88, Session #6

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GENERIC CERTIFICATES: INDUSTRY PERSPECTIVE

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Thank you and good morning. I appreciate the opportunity to participate on this panel.

The Generic Certificate Program has been operating for nearly 20 months. Although the program has had its ups and downs, overall it has been very beneficial to U.S. agriculture. Over the next eight months the Generic Certificate Program will be almost totally responsible for maintaining the competitiveness of U.S. grains in the world marketplace.

U.S. agriculture has been through some dramatic changes in the last 10 years.

The 1970s experienced increasing exports and a healthy agriculture environment. In the early 1980s exports dropped sharply (40%) as U.S. commodities became uncompetitive in the world marketplace and U.S. agriculture fell into a slump.

Today U.S. agriculture is going through another change as demand for U.S. commodities rebounds sharply.

Why is the environment changing today? Because U.S. grain is competitively priced in the world marketplace. There are many reasons for this turnaround, but the main reason is the Food Security Act of 1985 and its lower loans and generic certificates.

What has been the impact of the competitive prices?

U.S. farm programs no longer support world grain prices.

World grain acreage is down more than 7 percent.

During that same period world grain consumption is up more than 13 percent.

The U.S. share of the world corn market is now 67 percent compared with 51 percent in 1985/86.

Total grain exports in 1987-88 are expected to be 4.2 billion bushels compared with 3.1 billion bushels in 1985-86.

Total demand for U.S. corn is at record levels and up 19 percent in two years.

We can conclude that the competitive U.S. prices of the last two years are causing a major change in world agriculture and the U.S. is regaining lost market share.

Generic Certificates are playing a key role in the recovery.
What is the specific contribution of the Generic Certificate Program?

The contribution has changed with the evolving supply-and-demand situation.

During the first 15 months the program:

- Increased U.S. competitiveness.

- Helped alleviate storage problems in 1986.

- Eliminated requirement for producer to store grain for nine months. Grain trade used space more effectively. Reduced need for CCC to reconcentrate grain.

Today and over the next eight months the Generic Certificate Program will be almost entirely responsible for the competitiveness of U.S. grains. Without certificates, demand for U.S. grain will decline.

Why?

1987 grain production has fallen well short of demand (7.2 billion bushels of corn production versus 7.7 demand).

Shortfall must be satisfied from excess stocks. However, virtually all of the excess stocks are under government control.

In early November CCC stocks were 3.1 billion bushels. If 1987 loans are added, CCC stocks effectively exceed 4 billion bushels. This grain is not available until prices exceed more than two times the county loan rate (2.1 times for corn, 2.34 times for wheat).

The Farmer Owned Reserve is 2.3 billion bushels. This grain is not available at less than \$3.03 for corn and \$4.38 for wheat.

The Farmer Owned Reserve has minimum levels, which could require the CCC to add stocks to the reserve even if demand is strong and overall stocks are being drawn down.

Thus CCC grain is needed, but it must move into the market- place at competitive prices.

What must the USDA do in the next 8 months to assure that the U.S. maintains its competitiveness?

Assure that the supply of certificates is adequate.

Assure that the certificate-redemption process works freely and government stocks move into the marketplace.

Certificates play a critical role today in maintaining U.S. competitiveness. However, our ability to compete next season may be limited by our ability to produce.

Extremely large acreage-reduction programs caused 1987 production to fall well short of use. This is not yet serious because of adequate CCC stocks.

Idled acreage in 1988 may exceed 1987 and CCC stocks will be down sharply.

Greatest threat to our competitiveness in 1988 will be the amount of acreage idled under various programs.

U.S. policy makers must address this problem and act today to reduce our dependence on acreage-reduction programs and eliminate the paid land diversion for feedgrains in 1988.

ANNUAL AGRICULTURAL OUTLOOK CONFERENCE

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Outlook '88, Session #7

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OUTLOOK FOR CATTLE AND SHEEP

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Fed beef production in 1988 is expected to remain near the large levels that have occurred since 1982. Nonfed beef production will continue the sharp dropoff which began in 1987 as the cattle inventory begins to stabilize. Thus, total beef production will likely decline around 4 percent in 1988, about the same as in 1987. As in 1987, supplies of competing meats will expand to boost total meat production to yet another record, only in 1988 the increase will likely be at the sharpest rate since 1975-76. Large supplies of competing meats at even lower prices will hold down retail price gains for the already relatively more expensive beef.

Factors Affecting the Cattle and Sheep Industry

Economic Uncertainty Increases for 1988

Recent stock market declines and increased pressures on fiscal and monetary policy have raised the level of uncertainty about economic growth and consumer spending in 1988. Real Gross National Product (GNP) in 1988 is expected to remain about unchanged from the near 3 percent rate of 1985-87, although down from earlier expectations. The stock market decline resulted in a sharp loss in consumer wealth and more importantly consumer confidence.

Lower interest rates, improvement in the trade balance, and real progress in deficit reduction should buoy the slide in consumer confidence. The degree to which consumer spending will be slowed from earlier expectations will not be known for several months. However, the greatest risk is for a larger than expected spending slowdown, given the length of the present expansion, increased economic uncertainty and the large and still expanding consumer debt load.

With the sharp increase in total meat supplies, it is difficult to perceive of much additional help from the economy in support of further gains in beef prices. Beef prices this summer were the highest since mid 1982. Much of this gain is expected to be maintained in 1988, but an even slower economic growth and the large supplies of lower priced competing meats does not bode well for higher beef prices.

Production Costs to Rise

While production costs in 1988 are expected to remain below 1984-86 levels, they are expected to rise from the very favorable 1987 levels. Inflation rates are expected to remain low, but continue the rise which began in 1987. The prime interest rate may remain in the 8 to 9 percent range reported in 1986-87.

Feed costs have already risen above a year ago. Large set-aside acreage and thus reduced crop production is beginning to pull down the record feed grain storage stocks. Feed grain acreage harvested in 1987 declined 14 and 21 percent from 1985 and 1986 levels, respectively. In spite of record yields, the smaller 1987 harvest will not keep up with use, resulting in lower ending stocks in 1987/88. Grain stocks at the beginning of 1987-88 were record large. They are expected to decline 10 percent this crop year, but may remain 7 percent above two years ago.

Corn prices in mid November were 13 percent above a year ago. Prices averaged \$1.50 per bushel in 1986-87, down 33 percent from a year earlier. However, prices this year may rise to \$1.60 to \$1.90. Export demand and possible changes due to deficit reduction plans increase the uncertainty of grain price increases this year.

Forage supplies remain large for the reduced number of roughage consuming animal units, but forage conditions deteriorated rapidly in the Southeast in early fall and remain poor in the Pacific Northwest. Pasture and range feed conditions on November 1 averaged 14 points below a year ago, but only 3 below above the 1976-85 average.

Hay production in 1987 was estimated at 153.7 million tons, only 1 percent below the record 1986 crop. Alfalfa hay production was down 3 percent, due largely to a dry summer in the Lake States and drought in the Pacific Northwest. Other hay production was estimated to be 4 percent above a year ago, and given the good forage conditions in most other areas, should provide sufficient forage supplies for a more normal winter, following light supplemental feeding requirements the past 2 years. Carry-over hay stocks on May 1 were record large and provide an even larger base for supplemental feeding in 1987/88. Even so, the farm price of hay was \$8 a ton above a year ago in October. Alfalfa hay was up \$10, while other hay averaged \$4 above a year ago.

Cattle

Both the January 1 and June 1 Cattle inventory reports indicated slight increases in beef cow numbers and thus the end of the breeding herd liquidation. However, the cattle inventory is not likely to stabilize until 1988 and present figures suggest only a modest expansion. The number of heifers calving and entering the cow herd in January-May remained at relatively low levels and the number of beef and dairy replacement heifers being retained for possible herd expansion was unchanged and down 2 percent from a year ago, respectively. The 1987 calf crop was estimated at 40.7 million head, 1 percent below a year ago and the smallest calf crop since 1961.

Cattlemen appear to be more concerned with improving their financial base by selling rather than retaining, replacement heifers. The opportunity cost of retaining a heifer remains high in regards to what a calf from a heifer bred

this spring may sell for when weaned in the fall of 1988. At that time, supplies of competing meats likely will be much larger, and together with higher feed costs may hold calf prices below the favorable levels of this past spring.

Although beef cow numbers have stabilized, any broad turnaround in inventories is at least a year away. Nearly two thirds of the calf crop is weaned and sold in the fall of the year. This fall was the first opportunity for most cow-calf operators to sell calves at higher prices. Calf prices in October averaged nearly \$20 per cwt above a year ago. Returns above cash costs were \$25 per cow in 1986, the first positive returns since 1980. These returns should rise to about \$55 to \$60 per head in 1987, before declining \$5 to \$10 in 1988. While representing a sharp improvement, these returns are well below the \$55 to \$120 returns in 1978-80. Cow slaughter as a proportion of the beginning inventory averaged nearly 18 percent in 1986, but is expected to average below 15 percent in 1987 and about 14 percent in 1988.

Per capita red meat and poultry utilization averaged 205 pounds during 1970-86 and 1978-80. Utilization will be about 216 pounds per person in 1987 and is expected to rise to 222 pounds in 1988, the sharpest year-to-year rise since 1975-76. This increase reflects expanding supplies of competing meats, particularly pork. These larger competitive supplies are lower priced than beef and relative to beef they will decline even further during the next year. While beef production is expected to decline 4 percent in 1988, about the same as in 1987, the decline is primarily in nonfed beef. Fed cattle marketings may remain near the recent large levels.

Slaughter Weights Rise as Mix Shifts

Slaughter cattle dressed weights have increased steadily since the spring lows when cattle were bid out of feedlots ahead of schedule due to lower than expected red meat supplies, particularly pork. Commercial slaughter weights are expected to average record high in 1987 and increase further in 1988 as the slaughter mix shifts. Cow and nonfed steer and heifer slaughter has declined sharply in 1987 down about 20 percent each. Further declines in cow slaughter are expected in 1988, but the sharpest reductions will be in nonfed steer and heifer slaughter as more of these cattle are bid into the feedlot. Nonfed steer and heifer slaughter was 2.6 million head in 1986, may be 2.1 million in 1987, and likely will decline to 1.0 to 1.4 million head in 1988 as demand for feeder cattle remains strong. As a larger proportion of these cattle are placed on feed and thus comprise a larger proportion of the slaughter mix, average slaughter weights will also rise. Fed cattle slaughter comprised 70 percent of the slaughter in 1986, and may rise to 74 percent in 1987 and perhaps to 76 percent in 1988.

Feeder Cattle Supplies Flexible

Dynamics of the beef industry are at work as large feedlot placements continue in spite of the smallest calf crop since 1961 and likely the smallest feeder cattle supplies outside feedlots since at least this same time period. Feeder cattle supplies outside feedlots on October 1 were 5 percent below a year ago. Calf supplies were down 2 percent and yearling supplies were down 22 percent. Contributing to this sharp drop in yearling feeder cattle supplies outside feedlots was the largest net feedlot placements during the third quarter since 1978. More lighter weight cattle are being placed on feed, but the proportion of total placements is relatively small. The number of steers

and heifers under 500 pounds on feed October 1, were up 87 and 39 percent, respectively. Even with these seemingly dramatic increases, they represented only 5 percent of the cattle on feed inventory, up from 3 percent a year earlier.

Calf slaughter through October was 18 percent--450,000 head--below a year earlier. Further calf slaughter declines are likely in 1988. Thus feeder cattle supplies in 1987-88 will be augmented by reduced calf slaughter, sharply reduced nonfed steer and heifer slaughter, and cattle placed on feed at lighter weights. Cattle on feed on October 1 in the 13 quarterly reporting States and on November 1 in the 7 monthly reporting States were 11 percent above a year earlier. Feedlots remain current, but fed cattle marketings will have to remain above a year ago through spring if backups and even heavier slaughter weights, as occurred in 1985, are to be avoided. Feedlot marketings in second-half 1988 may decline modestly from the large 1987 levels, but will remain large.

Nonfed Beef Supplies to Drop

Beef production in 1987 dropped about 4 percent below a year earlier as a 1 to 2 percent increase in fed cattle marketings only partially offset a 20 percent drop in nonfed slaughter. In 1988, another 4 percent drop in beef production is expected. Fed cattle marketings likely will remain large, although they may drop slightly below the large 1987 level. Cow slaughter may decline 4 to 5 in 1988, but very sharp declines in nonfed steer and heifer slaughter are expected. Beef production may decline only about 1 to 3 percent in the first half as fed cattle marketings likely will remain above this year's level through mid year. Second-half production may decline 5 to 6 percent as fed cattle marketings also drop below year-earlier levels. Poorer returns in first half 1988 due to high feeder cattle prices in late summer-fall 1987 plus higher feeding costs will result in lower placements from the further reduced feeder cattle supplies.

US. Beef Exports To Japan And Brazil Rise

U.S. beef exports during January-September 1987 were up 29 percent from a year earlier to 421 million pounds, on a carcass weight basis. The largest market, Japan, with 269 million pounds was up 9 percent. The continued strength of the yen and the recent increase in Japan's import commitment are responsible for the increase. Japan increased its global quota for beef imports for the Japanese fiscal year (April 1987-March 1988) to 214,000 tons. This is 37,000 tons (or 20 percent) above the commitment agreed to under the 1984 Beef-Citrus Understanding. Historically about 30 percent of the total quota has been U.S. high quality beef. But, because of Japan's shortage of high priced wagu beef, it is estimated that the U.S. share of this increase could be as much as 45 percent.

Another major reason for the increase in 19787 U.S. beef exports has been meat exports mandated under the Food Security Act of 1985 to lessen the effects on domestic producers of the Dairy Termination Program. Last year 90,000 tons of beef were sold to Brazil, and additional smaller sales have been made to Venezuela and Mexico. About 100 million pounds were shipped to Brazil during 1986, and in the first 9 months of 1987, 66 million pounds have been exported.

Total U.S. exports of beef and veal are expected to be up 21 percent to 636 million pounds in 1987. Although exports to Japan are forecast to continue increasing next year, total U.S. beef exports for 1988 will likely decline with the completion of the shipments mandated under the Food Security Act. However, the expected export level will still show a sharp increase over 1985 exports.

Beef Imports Rising

U.S. imports of beef reached 1,851 million pounds, during January-September 1987, up 14 percent over the same period last year. The major suppliers, Australia and New Zealand, were up 18 and 38 percent respectively, to 820 and 559 million pounds. Imports from Canada were down 19 percent to 132 million pounds. Total U.S. beef and veal imports for 1987 are likely to be up 5 percent to 2,270 million pounds and further gains are expected next year.

Argentina and Brazil, because of hoof and mouth disease, can only provide cooked beef, which is not included under the Meat Import Law. Imports from Argentina were up 27 percent to 150 million pounds during the first 9 months, but Brazil's were down 17 percent to 63 million pounds

Meat imports subject to the Meat Import Law are fresh, chilled, or frozen beef, veal, mutton, and goat meat and certain prepared items. The trigger level for 1987 is 1,440 million pounds product weight. Meat imports subject to the Meat Import Law were up 15 percent to 1,226 million pounds in January-September 1987 according to Department of Commerce import statistics. The fourth quarterly estimate of 1987 U.S. imports under the Meat Import Law was set at 1,439 million pounds, based on verbal agreements with Australia and New Zealand to sign voluntary restraint agreements to limit their exports for the remainder of 1987. This means that because the fourth quarterly estimate is below 1,440 million pounds the meat import quotas mandated by the Meat Import Law will not be triggered. The trigger level and first quarterly estimate for 1988 will be announced by the Secretary of Agriculture at the end of the year.

Record Meat Supplies To Pressure Prices

Returns to the beef sector over the next couple of years will increasingly be affected by large supplies of competing meats at even lower relative prices. Little additional help is likely to come from an economic recovery already near record length. Although production expenses should remain well below 1985 levels, feed and other costs will rise from the low 1987 levels. Declines in profit margins should hold down the rate of herd rebuilding, particularly on farms where herds were liquidated. Returns will likely remain above cash costs. However, from the perspective of a new entrant they are not likely to cover the capital investment costs of entering the beef industry, particularly at today's higher prices for herd replacements.

Retail beef prices reached \$2.49 a pound in June, the highest monthly average price since July 1982. This peak occurred at a time of unexpectedly tight total meat supplies, with beef production down 8 percent for the quarter and nearly 12 percent below May 1986. As beef supplies began to increase during the summer months, retail prices trended lower, averaging \$2.46 in August through October. Fourth-quarter retail beef prices could drop an additional 2 to 3 cents, bringing the average for the year to around \$2.42.

In 1988 an 11-percent increase in pork production as well as a 5-percent increase in poultry production will pressure retail prices for all meats. This situation is expected to offset potential price increases within the cattle sector from further declines in beef supplies. For 1988, Choice retail beef prices may average near \$2.44 per pound, only 2 cents above the 1987 average, but well above the \$2.31 in 1986. Fed cattle prices are expected to remain in the low to mid-\$60's during the remainder of 1987 and into the first quarter of 1988. Modest price strength is expected going into the spring quarter as seasonal declines in slaughter support prices in the mid-to-upper \$60 per cwt range. Fed cattle marketings are expected to pick up slightly during the summer quarter, forcing prices back to the mid-\$60's where they likely will remain for the rest of the year.

Prices for feeder cattle and cows are expected to feel less of the impact of larger meat supplies next year because of sharp cutbacks in available numbers. Yearling steers should continue trading in the low to mid \$70's through the first half of 1988. Some seasonal price weakness is expected next summer, with prices shifting to the low \$70's before picking up again next fall. Utility cow prices will show less volatility, continuing in the mid \$40's per cwt through much of 1988 as processing beef supplies decline even further.

Sheep and Lambs

Sheep and lamb producers continue to show positive returns in 1987. Costs of production estimates for total cash costs per hundredweight of lambs sold were in the low-to-mid \$60's for 1986. Sheep producers should have positive returns again in 1987. Slaughter lamb prices averaged in the high \$70's for the year and feed costs remained basically unchanged. Producers also received payments for cull ewes, wool, and ASCS wool price support payments.

Costs of production estimates indicate that sheep producers have had positive returns above total cash expenses since 1984. These positive returns have resulted in a 24-percent year-over-year increase in ewe lambs kept for the breeding herd as of January 1, 1987, and in stabilizing stock sheep numbers during 1987. Positive returns to sheep producers have resulted in a 15-percent year-over-year decline in cumulative mature sheep slaughter through October, from about the same beginning inventory. This is a further indication that the sheep industry is expanding and that stock sheep numbers and ewe lamb numbers may be up on January 1, 1988, with production increases expected for 1988.

Commercial lamb and mutton production in 1987 may be down 8 percent compared with 1986. Production of lamb and mutton is expected to increase 6 to 8 percent, to around 330 million pounds, in 1988. First-quarter production may rise about 12 percent. This large increase is due in part to the spring religious holidays falling in early April in 1988, as compared to late April in 1987. Production in the remainder of 1988 may increase about 4 to 7 percent over 1987.

Slaughter lamb prices at San Angelo have been dropping steadily since the May 1987 peak of \$94.50 per hundredweight to about \$66 in October, with third-quarter prices averaging about \$72.90. This is a normal seasonal pattern in sheep prices, but the decline may be greater this year because of the larger spring price runup. Slaughter lamb prices at San Angelo are expected to average \$74 to \$80 in the first quarter of 1988, and \$75 to \$81 in

the second quarter. Prices are expected to remain strong relative to a year ago in the first quarter of 1988 as the spring religious holidays occur earlier in the year. However, prices in the spring quarter are likely to average \$10 to \$14 below this years price. For the year, 1988 slaughter lamb prices may average \$70 to \$76, as compared to \$78 to \$79 in 1987.

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OUTLOOK FOR HOGS

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Overall, net returns to hog producers in 1987 have been favorable due to high hog prices and low feed costs. However, returns have dropped in recent weeks as sharply higher pork production depressed hog prices from the low \$60's per cwt to the low \$40's. Feed costs have increased a little, but are still relatively low. The outlook for 1988 is for farrow-to-finish producers net returns to be near the breakeven level as pork production increases sharply. The increase in pork production will likely result in hog prices averaging around \$40 per cwt next year. Feed costs are expected to rise modestly.

In the past 2 years producers returns have risen sharply. In 1985, receipts less cash expenses and replacement for a North Central farrow-to-finish operation marketing 1,600 hogs a year was nearly a dollar per cwt sold. In 1986, returns rose to over \$8 per cwt sold and projected returns for this year are \$13-14 per cwt. The September Hogs and Pigs report indicated that producers continued to increase their herds and followed their plans to have more sows farrow than a year ago. The increases are due to a sustained period of relatively high producer returns since mid-1986. The rise in the June-August pig crop was moderated by a slight drop in pigs per litter, the first in 12 quarters. The decline was due in part to a larger proportion of gilts in the breeding herd.

As of September 1, hog producers in the 10 quarterly States intended to moderately increase the number of sows farrowing over the next 6 months. The September-November intentions showed 7 percent increase, the same as reported in June, despite the continued high profitability in hog production. The outlook calls for profitability to continue into 1988, but producers may be near a breakeven position by the second quarter. The expansion in hog numbers is probably being moderated by expectations of declining returns, and the possibility that producers are using recent profits to pay off debts and strengthen their financial positions. Recent ERS studies based on 1986 data confirm that hog producers did reduce their debts. It is hypothesized that debt reduction continued in 1987. The September market hog inventory and farrowing intentions suggest that 1988 pork production may be up about 11 percent over 1987.

Factors Affecting Pork Industry

One of major certainties concerning the pork industry in 1988 is that of economic growth and consumer spending levels. Recent volatile movements in the stock market and increased pressures on fiscal and monetary policies have accentuated this concern. Despite the volatilities, the general economic outlook has not changed significantly. Real Gross National Product (GNP) is expected to grow about 3 percent in 1988, about the annual rate experienced in 1985-87. The rate of inflation is expected to be 3 to 4 percent in 1988, up slightly from 1987. Improvements in the trade balance and progress in budget deficit reduction should help blunt the recent slide in consumer confidence after the stock market decline. Given the large increase in total meat supplies, pork probably will receive little help from the general economy. On the other hand, given the heightened economic uncertainty and the large and expanding consumer debt load, a less robust economy than expected could be a depressing influence on hog and pork prices.

Feed Costs To Rise

Corn prices for 1986/87 averaged \$1.50 a bushel and are expected to average \$1.60 to \$1.90 a bushel this year. Soybean meal averaged about \$163 a ton in 1986/87 and is expected to average \$150 to \$175 a ton in 1987/88. The additional cost of corn will add about \$1.50 per cwt to cost of production.

Inventory Up 9 Percent

The September 1 inventory of all hogs and pigs in the 10 States conducting quarterly surveys totaled 42.8 million head, up 9 percent from a year ago and the highest September inventory since 1984. Breeding inventory, at 5.3 million head, was 9 percent above a year earlier. The market hog inventory totaled 37.5 million head, up 9 percent, and the highest September figure since 1984.

The June-August pig crop was 17.5 million head, 11 percent above last year, and sows farrowing totaled 2.26 million head, up 11 percent. In March, producers indicated an intent to farrow 8 percent more sows in June-August than a year earlier, but by June, these intentions increased to 9 percent. Sows farrowing in June-August were bred in February-April, when net returns were relatively high. Returns in April increased sharply over those of March and February. Pigs per litter averaged 7.75 in June-August, compared with 7.79 a year earlier.

Farrowings To Continue Increasing

As of September 1, producers indicated intentions to have 2.31 million sows farrow during September-November of this year, up 7 percent from 1986. Farrowing intentions for December 1987-February 1988 are 8 percent above a year earlier and 13 above 1985/86. Because of previous years of low or negative returns, financial stress, and tighter lending standards, the moderate increase was expected rather than the double digit increases experienced in previous hog cycles. With debt capital more difficult to obtain, the expansion may be largely internally financed, which would in itself be a moderating influence.

Pork Production To Increase

Commercial pork production in 1988 is expected to total about 15,650 million pounds, up 11 percent from projected 1987 production. In 1987, production is expected to total about 14,150 million pounds, up 1 percent from 1986. Commercial slaughter in 1988 is expected to total about 89 million head, up 11 percent from the projected 80.25 million head in 1987. The projected 1987 slaughter is up 1 percent from 1986.

The June-August pig crop and the September 1 inventory of market hogs weighing under 60 pounds are indicators of first-quarter slaughter. Slaughter as a percentage of the pig crop and market hog inventory is expected to be higher than the 5-year average in 1988, as it was in 1987. Hog prices are expected to be down sharply from summer 1987 and moderately from fall 1987. Commercial slaughter in the first quarter is expected to be 8 to 10 percent over the same period a year ago. The average dressed weight may be a little lighter than 1987's 178 pounds. Higher corn prices and price discounts on heavier weight hogs will probably encourage producers to market hogs somewhat lighter than this year. Commercial production is estimated at 3,850 million pounds, up 9 percent from 1987.

Commercial production in the second quarter of 1988 is projected at 3,825 million pounds, up 15 percent from 1987. Based on producers' September 1 farrowing intentions and a continued rise in pigs per litter, the September-November pig crop is expected to be up nearly 8 percent. In 1987, second-quarter commercial slaughter as a percentage of the pig crop was 113, compared to the 5-year average of 119. In 1988, commercial slaughter is expected to be about 120 percent of the projected pig crop. Commercial slaughter in the second quarter is expected to be 14 to 16 percent above 1987. The average dressed weight is expected to be about the same as in 1987, at 177 pounds.

Based on September 1 intentions and a slight rise in pigs per litter, the December 1987-February 1988 pig crop is expected to be about 8 percent larger than 1986/87. Commercial slaughter in the third quarter of 1988 is projected at about 22 million head, up 13 percent from 1987. The projected slaughter as a percentage of the estimated pig crop is equal to the 5-year average. In 1987, third-quarter slaughter was 128 percent of the December 1986-February 1987 pig crop. The average weight is expected to be about the same as 1987's 174 pounds. Thus, commercial production is expected to total 3,825 million pounds in third-quarter 1988, up 13 percent from 1987.

With profitability expected to continue through the breeding season corresponding to March-May 1988 farrowings, the spring pig crop is projected to be up about 7 percent. In turn, fourth-quarter commercial slaughter is expected to be 6 to 8 percent higher than in 1987. With no change in the average dressed weight, commercial pork production would be about 4,150 million pounds, up 6 percent from 1987.

Cold Storage Stocks

Stocks of pork in cold storage approached record lows in 1987. Expectations of increasing pork production and large discounts in deferred future prices offered little incentive to accumulate inventory in the first half of the year. When actual production fell short of expectations, the already-reduced stocks were depleted.

Although stocks of cold storage as of October 31, 1987, were nearly the same as a year ago. This situation is not likely to repeat itself in 1988. Pork production has moved back in line with expectations based on the Hogs and Pigs reports, and lower cash prices may increase the incentive to move pork into storage. In the belly market, the premium of deferred futures prices over cash is encouraging movement of bellies into storage. Additionally, there may be a natural tendency to replenish inventories after the excessive drawdowns of 1987. These factors may cause cold storage stocks to return to more normal levels in 1988.

Hog Prices To Decline

After increasing for 2 consecutive years, hog prices are expected to decline substantially from 1987 to 1988. Expanded pork supplies will be the primary influence. While beef supplies may be lower, they are likely to be offset by larger poultry supplies. Macroeconomic conditions may be about the same as in 1987, but recent disruptions have increased uncertainty regarding 1988.

Coinciding with an abrupt increase in slaughter, hog prices fell sharply in September and October. Third-quarter prices averaged \$59 at the seven markets, down 3.5 percent from a year ago, and the first year-to-year decline since the first quarter of 1986. The market continued to move lower in October, averaging \$49, as weekly kills climbed to 3-year highs and market weights increased. By early November, prices were in the low \$40's per cwt.

Barrow and gilt prices may average \$44 to \$48 in the fourth quarter of 1987. If so, the drop of 20 to 25 percent from the third quarter will be the largest seasonal decline since 1976, which was also a year of expansion in the hog industry. Ham prices are being pressured by record large turkey supplies, and a greater-than-normal seasonal increase in pork production. Despite exceptionally low cold storage stocks, per capita ham supplies are projected to be 6 percent higher than a year ago, and up 17 percent from the third quarter. Turkey prices, which normally strengthen in the fourth quarter, are expected to decline. The combination of these factors suggests that seasonal strength in ham prices were dampened, exerting downward pressure on hog prices.

In first-quarter 1988, hog prices are expected to average in the low \$40's per cwt. Per capita pork supplies, which typically decline from fourth to first quarter, are expected to remain steady at about 18 pounds, and this may limit seasonal price advances, typically in February. Compared with a year ago, pork supplies are likely to be up 8 percent in the first quarter, while combined supplies of beef and poultry are projected to show an increase of nearly 2 percent.

Weekly slaughter rates are expected to increase about 100,000 head from February to April, peaking near 1.75 million. Accordingly, barrow and gilt prices may decline during this time, possibly falling into the high \$30's as spring lows are established. Per capita pork supplies could be up nearly 13 percent from a year ago in the second quarter, with supplies of competing meats up about 2 percent. With some price recovery anticipated toward the end of the period, prices may average \$37 to \$43 for the quarter.

In the second half of 1988, the average price of barrows and gilts is expected to be near the second quarter. Prices may come off their summer

highs earlier in the third quarter than in 1987, as both cold storage stocks and hog slaughter could be substantially higher. Price declines in the final quarter may again push values into the \$30's, but should still average near \$40 per cwt.

Feeder pig prices are likely to be lower in 1988 than in 1987. The optimism which characterized the market throughout most of 1987 is likely to diminish, as hog prices follow a general downtrend. With lower hog prices and steady to higher feed costs, finishing operations are expected to bid lower for the increased supply of feeder pigs.

Retail Pork Prices Record High in Third Quarter, Decline Likely

Retail pork prices in third-quarter 1987 averaged \$1.96 a pound, up 4 percent from a year ago, and a quarterly record despite a small increase in per capita consumption on a year-over-year basis. However, the price rise could carry over from the 7 consecutive quarters of year-over-year decline. Prices are expected to average around \$1.85 a pound in the fourth quarter as attention turns to hams and a 5 percent rise in year-over-year per capita pork consumption. Although there are fewer hams in cold storage, higher hog slaughter will keep supplies above a year ago, moderating prices. In addition, very large turkey supplies will pressure prices in the fourth quarter and possibly in first-quarter 1988. For all of 1987, retail prices will average near \$1.87 a pound. In 1988, retail prices are expected to average 9 to 11 percent lower than in 1987 as pork and poultry production continues to rise.

The farm-to-retail spread averaged \$1.01 in the third quarter, up 10 cents from a year ago, and for 1987 may average 8 to 10 percent above 1986's 96 cents a pound. Part of a sharp rise in spreads can be attributed to the lag in retail prices to a sharp break in live prices. The lag effect temporarily inflates the spread due to sticky retail price changes. However, within 2 to 3 months, retail prices usually reflect changes in live prices. In 1988, with a 20- to 25-percent drop in hog prices anticipated, the spread may average 1 to 4 percent higher than in 1987.

Pork Imports Up, Hogs Down

Following the placement on August 15, 1985 of a countervailing duty on live swine imports from Canada, and development in Canada of new meat processing facilities, U.S. imports from Canada of live hogs declined while pork imports rose. U.S. live hog imports from Canada, at 327,728 head during January-September 1987, were down 22 percent from the same period last year. At the same time U.S. imports of Canadian pork were up 13 percent at 412 million pounds. Total imports from Canada of pork and hogs on a carcass-weight basis increased 8 percent.

Live hog imports from Canada would have declined further in the first half of the year except for the favorable price spread between U.S. and Canadian hog prices. As U.S. hog prices decrease with increasing U.S. production, hog imports should slow further during the latter part of the year. Total hog imports for both 1987 and 1988 are estimated at 350 to 400,000 head. The deposit rate for the countervailing duty is presently Can \$4.386 per cwt. Review of the duty has been completed for the period April 1, 1985-March 31, 1986, and after a comment period the final assessment rate will be published.

At that time the difference between the assessment rate and the deposit rate will either be refunded to or collected from the U.S. importers and a new duty rate will be established.

Total U.S. pork imports, at 885 million pounds carcass weight equivalent during January-September, were up 10 percent, mainly because of increased imports from Canada and Eastern Europe. Imports from Denmark, the United States' second largest supplier after Canada, were down 2 percent. EC export restitutions for pork have been increased, and are expected to counter the negative effect of the strengthening of the Danish krone against the dollar. Pork imports from Denmark should expand during the last part of 1987. Total U.S. pork imports in 1988 could increase slightly from the 1.2 billion pounds expected this year, however, larger U.S. supplies and lower pork prices may dampen the rise.

Pork Exports Rise

U.S. pork exports rose 16 percent to 67 million pounds during January-September 1987. About half of these exports are destined for Japan, up 31 percent over last year. The strength of the yen compared to the dollar has made U.S. pork attractive in the Japanese market. Total U.S. pork exports are likely to reach 100 million pounds in 1987 and are forecast to continue to expand next year.

World Pork Supplies Large

Pork output in the major producing countries reached 56 million tons last year, almost a 50-percent increase from 1975's output. Most of this increase came in China, which accounted for 30 percent of the world's pork last year. Pork is the principal meat consumed in Eastern and Western Europe as well as one area in Asia. World pork output should decline slightly in 1987, mainly because of a drop in China. Foreign production, excluding China, is likely to increase 2 percent in 1987. Next year, China's output should recover, and along with increased output in the United States and Canada, world pork production could increase 2-3 percent. Not much gain is foreseen in 1988 for the rest of the world, though, as downward pressures on prices from large meat supplies could compel producers to pull back inventories.

Low feed prices and favorable returns have kept inventories and output up in the EC. However, increasing supplies of pork and competing meats are pressuring prices downward, and there may be only a small increase in EC hog inventories next year.

Denmark, the largest supplier to non-EC countries, has been having difficulty with exports. The weak dollar krone exchange rates have negatively affected U.S. imports of Danish pork. Japan, Denmark's other large market, has been importing larger amounts of pork from Taiwan and the United States.

Taiwan, faced with a serious oversupply of pork, has been able to compete effectively for the Japanese market. Because of Taiwan's low costs of production, processing, and transportation they have been able to become Japan's primary source for pork imports.

High feed prices and overabundant pork supplies prompted Chinese pork producers to slaughter large numbers of sows in 1986 and to reduce this year's

output. Measures now being taken to reduce feed prices and increase pork prices. China's production is forecast to recover in 1988.

Canadian hog inventories are expected to continue to build next year because of the favorable hog/feed price ratios. Pork output is expected to increase 3 percent this year to 940,000 tons, with most of the increase in the second half. A 6-percent increase is forecast for next year.

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OUTLOOK FOR EGGS, BROILERS, AND TURKEYS

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1988 HIGHLIGHTS

- Eggs - Production and prices will change little. Feed costs will continue to edge upward and will squeeze returns to producers even further.
- Broilers - Output will expand again. Prices will drop lower and will average close to breakeven.
- Turkeys - Supplies will be big again. Prices will continue to be weak and will average below production costs.

EGGS -- TABLE-TYPE

In China around 2000 B.C., the national sport was cockfighting. Cockerels with losing records often ended up being the main entree on their owner's food table. Hens, because they were needed to produce more fighting cockerels, were always in plentiful supply. Hens, also were served at dinner in celebration of a cockerel's victory. At that time, eggs were never used as food. Then for some unknown reason around 1500 B.C., a dare-devil Chinese ate the first egg. Believe it or not!

-- The American Poultry Historical Society.

Production, Prices, and Returns

Since 1980, production of table-type eggs has hovered around 5.1-5.2 billion dozen annually. Based on this trend and the current economic assessment of the industry, it would be difficult to forecast much change in egg output during 1988. Although returns to producers during 1987 were mixed, they

averaged close to breakeven costs for the year. Even though egg prices have been very weak since last spring, the industry shows no inclination of curtailing production at this point. Overall, the flock number and replacement pullets have changed little; forced molting is high, and slaughter of light-type hens is running below 1986.

The fourth quarter is the most important marketing period of the year for the industry. Hence, producers plan to maximize their sales to the extent possible in order to take advantage of increased seasonal cooking demand which usually generates the strongest prices for the year. During the last half of 1986, cartoned large white egg prices in New York City at 74 cents per dozen were comparatively strong which is probably the reason that October-December 1987 production is up 1 or 2 percent, and prices for the quarter will be down 10 to 15 cents a dozen from 1986.

Egg prices in 1988 are projected to average in the low to mid 60's compared with 62 cents per dozen (preliminary) in 1987 for cartoned large white eggs in New York City. Production costs likely will be a little higher than this year's 62-cents-per dozen average for the industry. Hence, the outlook for the industry is not too bright.

Production Shocks That "Drive" Prices

A unique characteristic of the egg industry is to expand production fairly quickly when sharp price runups occur. Producers operating at below capacity can increase output rather quickly, primarily by simply keeping older hens longer through forced-molting.

In recent years, upward price movements have been due largely to irregular forces followed by increased production which has triggered low prices. Two recent examples are: (1) In the fall/winter 1983-84, a serious outbreak of avian influenza struck Pennsylvania flocks resulting in over 15 million birds being destroyed. That catastrophe further cut U.S. egg production at a time when the industry was already slowing output in response to poor returns earned during the first half of 1983. The end result was that wholesale prices soared to over \$1 per dozen during the winter of 1983-84. Many budget conscious consumers probably still remember paying \$1.25 and more for eggs at that time. (2) The extreme hot temperatures in the South during the summer of 1986 influenced the fairly strong prices during the last half of 1986. As long as the egg industry responds to these types of false market stimuli, small periodic increases in production will continue and will generate some price instability from time to time.

Importance of Seasonal Demand

The fourth quarter is the most crucial price period for the egg industry. Because of stepped up demand for eggs to use in cooking and baking, prices tend to average higher in November and December than at any other time of the year. Traditionally, this is the festive time of year when Americans get together with friends and relatives to celebrate the holidays with elaborate prepared foods and nog, most of which include eggs. Hence, if strong prices fail to materialize for eggs during the fourth quarter, then the industry must be content with rather flat prices for the next 9 months.

Although the Easter market is important, it is generally for a relatively short duration of about 2-3 weeks. There is never any assurance that prices will make their usual 10 to 15 cents per dozen runup as was demonstrated by the flat market this past April.

Competition from Hatching-Type Eggs

Another factor which exacerbates the table egg industry's dilemma is the growth in broiler hatching eggs. As a result of expanding demand for broiler meat, more eggs are being produced by the broiler industry. Although most of these eggs go into incubators, those that do not meet hatching quality standards, but are wholesome, are sold to breakers and to the table egg market. In 1987, it is estimated that this volume may have approached 75 million dozen compared with approximately 50 million dozen in 1984. Hence, these eggs add to the domestic supply of table eggs and contribute to holding prices below a potentially higher level.

Long-Run Prospects for Eggs

Although there is confusion about which foods may be good and/or bad for your health, Americans are reducing their consumption of eggs. This fact is supported by a consistent downtrend in per capita consumption and is evidenced also by declining real prices of eggs. If consumers have not developed a strong preference for a certain kind of food, or if there are substitute foods, it becomes fairly easy for consumers to reduce consumption of that particular food, or to cut it out entirely.

A recent report by a Government-sponsored panel of health specialists recommends that doctors monitor their adult patients' cholesterol level and prescribe corrective diets for risk cases and drugs, if necessary. If doctors heed this report, there is no doubt it will adversely impact demand for foods that are relatively high in cholesterol, contributing further to the long-run decline in eggs.

The present older segment of the adult population (i.e., 50 plus) is considered to be the greatest consumer of eggs. These people were brought up by parents who often ate eggs for breakfast. But their numbers are constantly declining. The next segment, better known as the "baby boomers," is believed to be consuming fewer eggs, probably as a matter of preference.

Today, roughly 1,800 producers own flocks of more than 10,000 layers compared with approximately 6,000 commercial owners a decade ago. Production will continue toward more concentration (fewer and larger firms) as the inefficient and cash-weakened operations are acquired by financially stronger firms. Over the next several years, production probably will continue little changed, or perhaps will diminish slightly. If production costs remain fairly level, the most efficient and innovative firms probably will continue to eke out modest profits.

BROILERS

Production, Prices, and Returns

The broiler industry is in a heavy expansion phase in response to 4 years of positive returns. Output in 1988 is projected to be about 5 percent higher following 1987's 8-percent increase. Returns to processors this year on sales of whole birds averaged about 5 cents per pound above breakeven, compared with the phenomenal return of 13 cents earned in 1986. The broiler hatchery supply flock for early 1988 is nearly a tenth greater than for early 1987. The bigger supply flock and the industry's healthy financial situation are the underlying forces behind the expectation of moderate to strong output again in 1988. Since prices have dropped substantially from weather and demand driven markets in 1986, the industry perhaps will proceed in a more cautious manner during 1988. To illustrate, prices of product for delivery to some cities fell to the upper 30's per pound in some weeks during 1987. These prices perhaps were below the cost of production. (Prices and profits received for the marketing of further processed or value-added broiler products are not reflected in the returns data discussed above.)

Wholesale prices of whole chill-packed birds at 12-cities averaged 48 cents per pound (preliminary) in 1987, down from 57 cents in 1986. But, more importantly, under pressure from greater supplies of competing meats, prices in the current quarter have weakened to the low and mid-40-cent range. Prices at this time are approaching the industry's average breakeven costs. Large supplies of broiler, pork and other poultry have pushed broiler markets down to the lowest level in several years. This is a clear signal to industry decisionmakers that the U.S. pork and poultry markets' pipelines are becoming saturated and that lower and competitive prices will be necessary in order to keep products moving into consumption. Projections place the average price of broilers at about 43-44 cents per pound for 1988.

U.S. exports of broiler meat for 1987 are currently estimated at 775 million pounds, up sharply from the 566 million shipped in 1986, and will exceed the previous peak of 719 million in 1981. Most of the increase was due to the Export Enhancement Program (EEP) for whole broilers and leg quarters for delivery to Egypt, Iraq, the Canary Islands and the Dominican Republic. Sales to Japan have been up this year and probably will remain strong in 1988. The 1988 outlook is for exports to increase slightly to approximately 800 million pounds. In addition to an increase in commercial sales, EEP exports are expected to countries in Africa and in the Near, Middle, and Far East.

As more women enter the work force, the growth in demand for highly processed items and convenience foods will likely continue unabated. Chicken and turkey fit well into this category of food marketing.

Low production costs have been a major factor behind the consistent growth in broiler output since 1984. This year's production cost, estimated at 43 cents per pound for whole birds, is the lowest in several years. It is fortunate in 1987 that as broiler prices weakened, the industry's production costs also continued to edge downward. The 1988 outlook for costs is for somewhat higher feed ingredient prices. Also, there is the possibility of an increase in the minimum wage scale. For all of 1988, it should be about a breakeven year for the industry as a whole.

TURKEYS

Production, Prices, and Returns

Turkey output during 1988 is projected to increase about 6 percent which would be moderate compared to the large 17 percent rise during 1987. The expected slowing in expansion is largely in response to negative returns that the industry received in 1987. Returns to the industry were positive during 1984-86 and resulted in dramatic increases in output during 1985-87. Although returns during the first half of 1987 were close to breakeven, production during the first half of 1988 will be quite a bit greater than the corresponding period of 1987 because of the industry's expansion momentum. Poults placed in September and October for slaughter in January and February 1988 were up 11 and 18 percent, respectively, from a year earlier. This is a fairly solid indicator of what might be expected for the early part of 1988. Hence, the projection is for about 15 percent more production in January-June 1988 than a year earlier.

Output for the last half of 1988, while being highly uncertain, is crucial to next year's total output. Recent historical data suggest that when the industry loses money during the last half of the year, it generally responds by holding down output during the last half of the following year. Estimated losses for the last half of 1987 were quite significant, in the area of 4-5 cents per pound. Therefore, if the industry responds as it has in the past under similar economic conditions, output during July-December 1988 should be little different than 1987. But, a note of caution: in years prior to 1984 when returns were positive, the industry did not expand as greatly as it did in 1985-87. In those years, there were more independent growers than at present. Since then the industry's structure has been moving toward more vertical integration. Given this situation, present decisionmaking for the industry as a whole may be less conservative than in the past when independent growers accounted for a larger share of the industry. Also, integrated firms can spread their risks more than independent growers. (Prices and profits for the marketing of further processed or value-added turkey products are not reflected in the returns data discussed above.)

During 1987, the seasonal price performance for turkey was atypical; i.e., higher in the earlier rather than the latter part of the year. Overall, 1987 was a disappointing year for producers. However, producers experienced very strong demand driven prices during the latter part of 1984 through 1986 despite rising supplies of turkey. Therefore, it seems evident that this year's 17-percent increase in output simply has overwhelmed the market for a product that enjoys consistent strong demand.

With the production projection given earlier, it seems likely that turkey prices will continue to be relatively low in 1988. A heavy volume of cold storage holdings in January will compound the supply and will keep prices very low in January-June 1988. If production in July-December 1988 is close to expectations, prices during the last half of the year will average somewhat above those of the corresponding period of 1987. Returns to the turkey industry probably will average negative for 1988 if two conditions persist as expected: (1) production costs edge upward, mostly due to higher feed ingredient prices and (2) product prices continue low in response to greater supplies of turkey and competing meats. If there is a bright side to the turkey outlook, it is the possibility for some modest positive returns to the industry in the fourth quarter of 1988.

SOME STRATEGY THOUGHTS FOR THE POULTRY INDUSTRIES

Outlook for the Next Few Years

It seems likely that total meat supplies will continue to be large for quite some time. This suggests that the egg and poultry industries may be in for lean times. Prices received by producers will be comparatively low, and depending on production costs, returns to many firms in the respective industries could be squeezed. Consequently, it may be a good time for the poultry industry to pause and let the population catch up with supplies. Although most poultry firms have little control over their market prices, they can assess areas of their operation over which they have control.

Contingency Reserve

The broiler and turkey industries should be in reasonably good financial condition because of good to excellent returns earned in recent years. The more liquid assets that can be placed into a contingency reserve makes it easier to get through periods when there is a cash flow squeeze. A contingency reserve plan makes it easier to be flexible. In periods of depressed returns (depending on the timing), strong firms can begin to expand output to coincide with the beginning of an upcycle in prices and profits. Successful investors, once ahead, have a good knack for knowing when to stand on the sideline and when to get back into the game. Investors who win big but plow their winnings back into the game often leave as heavy losers.

Is It Time to Hold Back on Expansion and Review Cost Efficiencies?

During good economic times, firms tend to overlook inefficiencies that creep into their operations. Inefficiencies never seem to go away on their own. They have to be identified and removed.

Now may be a good time to obligate fewer funds to expanding capacity and perhaps allocate more resources to increasing production efficiency. There may be a significant amount of substandard housing that could be dropped. In lieu of adding more houses, it may be wiser to encourage contractors to upgrade their houses, or replace them with modern construction and equipment.

Feed Ingredient Purchases

Take another look at feed buying practices. Firms that have the financial ability and technical expertise to lock in their feed costs over a long period of time generally fare better than those who purchase on a "hand-to-mouth" basis. Because feed costs have been low and fairly stable over the past few years, producers who have purchased on an as-needed basis have not done too badly. However, there is considerable uncertainty as to how long low feed prices will be around. Prices could advance with little or no warning if weather should become adverse either here or abroad, and the value of the dollar remains low against foreign currencies. Consequently, feed costs will be an important factor in the egg and poultry industries' well-being during the years ahead.

POULTRY AND EGG OUTLOOK
(Selected Statistics)

	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u> Prel.	<u>1988</u> Proj.
BROILERS (RTC)								
Cost of Prod., ¢/lb.	52	47	51	51	45	44	43	45
Prod., bil. lbs.	12.0	12.2	12.4	13.0	13.8	14.3	15.5	16.3
Exports, mil. lbs.	719	501	432	407	417	566	775	800
Per capita Cons., lbs.	48	50	51	53	56	57	60	63
Whsl. prices, 12-cities, Whole, ¢/lb.	49	46	50	56	51	57	48	44
Industry returns, ¢/lb.	-3	-1	-1	+5	+6	+13	+5	-1
TURKEY (RTC)								
Cost of Prod., ¢/lb.	67	60	65	68	60	60	57	60
Prod., mil. lbs.	2577	2522	2649	2685	2942	3271	3827	4070
Cold Storage, Jan. 1, mil. lbs.	198	238	204	162	125	150	178	300
Per capita Cons., lbs.	11	11	11	11	12	13	15	17
Whsl. price, E. Region 8-16 lbs., hens, ¢/lb.	61	61	60	74	76	72	56	54
Industry returns, ¢/lb.	-3	+2	-4	+8	+17	+15	-1	-5
EGGS (TABLE-TYPE)								
Cost of Prod., ¢/doz.	73	66	72	72	66	64	62	64
Prod., mil. doz.	5240	5210	5090	5120	5080	5070	5130	5100
Breaker use, mil. doz.	732	733	732	769	813	857	930	975
Exports, mil. doz.	234	158	86	58	71	102	108	105
Per capita Cons., eggs	265	265	261	261	255	251	251	246
Whsl. prices, Large, cartoned NYC, ¢/doz.	73	70	75	81	66	71	62	63
Industry returns, ¢/doz.	0	+4	+3	+9	+1	+7	+1	0

ANNUAL AGRICULTURAL OUTLOOK CONFERENCE

United States Department of Agriculture
Washington, D.C.



OUTLOOK '88, Session #7

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ANOTHER LOOK AT THE LIVESTOCK AND POULTRY SECTORS

Bob Remmele
Economic Analyst, Conagra, Inc.

The well-being of the livestock and poultry industries was impacted by three outside factors during the last three years. Foremost was the drop in feedgrain prices that occurred as a result of changes in the government's farm program. Second in importance was the strong growth in consumer expenditures that spurred consumption of value added products. Finally, the high level of farm debt that slowed expansion plans of livestock producers.

Lower feed costs in these industries were rapidly translated into reduced production costs. It is estimated that the cost of producing hogs dropped by 7 to 9 cents per pound because of lower feed costs and the cost of producing broilers dropped by 4 to 5 cents. The cattle feeding industry also benefitted from lower feedgrain costs, however, much of these benefits have been passed onto the cow-calf producer in terms of higher feeder cattle prices.

The poultry industry appears to have benefitted most from the economic expansion. Households with two incomes and also the single household looked for convenience in meal preparation. Together, the fast food industry and the poultry industry responded with new menu items that boosted chicken consumption. Furthermore, the poultry industry introduced many new value added and convenience products for the fresh food counter as well as the frozen food freezers.

Farm debt has been sharply reduced during the last three years and is now much more manageable. Many hog producers and cow-calf producers are able to expand with their own equity if they so desire.

The outlook for 1988 appears much different. Feedgrain prices appear to have bottomed and are trending higher as are protein prices. Thus, costs of production are climbing at a time when increased output of pork and poultry is lowering prices received by producers. At the same time, the economy appears to be slowing down. Real consumer expenditures had been growing at a 4 to 5 percent annual rate during 1985 and 1986, but slowed to a 2 percent

increase during 1987 and expenditures are expected to slow even more during 1988. It is very possible that consumer expenditures will show no growth or even a slight decline in at least one or two quarters in 1988.

On the other hand, expansion of livestock industries appears more possible given the improved financial condition of farmers. However, farmers are still expected to take a cautious attitude towards expansion.

CATTLE

Returns to cow-calf producers in 1987 were the best since 1980. Yearling feeder steer prices are expected to average about \$75 per cwt., up from \$63 last year. This price increase and anticipated increases in 1988 will change the beef cattle cycle from the liquidation phase to the expansion phase.

A very important factor for the year ahead will be the reduction in the feeder cattle supply. As of October 1, 1987, the yearling feeder cattle supply was estimated to be down 19 percent from a year earlier and the feeder calf supply was estimated to be down 3 percent. With the 8 percent increase in placements on feed during October, the supply of available yearling cattle has been further reduced. During the coming year, cattle feeders will need to look at placing lighter weight cattle on feed to keep their feedlots filled. Because of this, the cattle feeding industry will be moving from feeding cattle for 120 days to feeding cattle for 150 to 180 days. In addition, cattle can be expected to be marketed at lighter weights; however, the feeders have a good deal of latitude about finished weights depending on market conditions.

Cattle placements during 1988 are expected to decline slightly from 1987 levels so fed cattle marketings will decline by 2 to 4 percent from 1987 levels. However, the biggest shifts will occur in the nonfed categories. Nonfed steer and heifer slaughter will decline sharply as nearly every available feeder will be bid into the feedlot. This category of slaughter could decline as much as 40 percent in 1988.

Cow slaughter is expected to decline by 9 percent in 1988. The estimated reduction in cow slaughter for 1988 comes almost entirely from the beef cow sector. Beef cow slaughter is expected to fall by 10 to 15 percent during the year. The dairy cow slaughter number will be influenced by any changes in the milk support program. If the milk support price is cut by 50 cents per cwt. in 1988, dairy cow slaughter is expected to decline 3 to 5 percent from 1987 levels.

Beef production during 1988 is expected to decline by 5 percent. Production during the first quarter may decline by just 3 percent because there will still be ample supplies of fed cattle to be marketed during the quarter. However, fed cattle supplies are expected to tighten during the remainder of the year resulting in quarterly declines in beef production of 4 to 6 percent.

Choice steer prices, basis Omaha, are expected to average above 1987 levels for the entire year. Prices are anticipated to be the weakest during the first quarter and average in the low to mid \$60's. However, prices are expected to increase to the low \$70's by the second quarter of the year and average in the upper \$60's during the second half of 1988.

HOGS

Profits in the hog production industry for the last two years have been about as good as any time in the last 15 years. An average farrow to finish operator in the Midwest received profits of over \$50 per head this summer and there are other producers that have done considerably better than that. For the last two years, profits are estimated to have exceeded \$25 per head. Although it took the hog industry longer to respond to these profits this year than in previous cycles, the industry finally did withhold gilts and sows to increase the breeding herd. This withholding may explain in part why hog slaughter was lower than anticipated during the spring of this year.

After a good deal of uncertainty about an expansion in the hog industry, hog slaughter has finally met or exceeded expectations. Hog slaughter during the last quarter of 1987 is expected to total about 10 percent above year ago levels. The latest "Hogs and Pigs" survey indicates that the expansion is just underway and will continue for all of 1988.

While withholding gilts and sows for the breeding herd contributed to short supplies and higher prices in the early stages of the hog cycle, lower withholding rates and higher culling have the opposite effects during the latter stages of the cycle. Thus, we are anticipating that hog slaughter during 1988 will exceed 1987 levels by a larger amount than indicated by the "Hogs and Pigs" report. Hog slaughter during the first quarter of 1988 is expected to exceed year earlier levels by 8 percent and hog slaughter during the second and third quarters are expected to increase by 13 and 11 percent, respectively. A lower expansion rate is expected by the fourth quarter of 1988 when we are looking for hog slaughter to be up by about 6 percent.

Hog prices have fallen from the low \$60's per cwt. this summer to the low \$40's this fall. This decline has erased much of the profit margin for hog producers but most hog producers are still receiving \$5 to \$10 per head over production costs. Although feed

costs are expected to increase in 1988, we expect that hog prices will still exceed the cost of production for most of the year. Hog prices in 1988 are likely to fluctuate from the low \$40's during the first quarter of the year to the mid \$40's during the second and third quarters. Prices are expected to decline to about \$40 per cwt. by the end of the year. Consequently, hog producers should still receive modest profits during the year ahead. Prices are not expected to be so low as to trigger a large scale liquidation of the breeding herd; thus hog output will likely increase into early 1989.

BROILERS

Profitability in the broiler industry was exceptional during most of the period 1983 to 1986. During that time, rapidly increasing demand for chicken products and lower feed costs more than offset a moderate growth in broiler supplies.

Demand for further processed chicken products was the primary force behind the growth in demand. This food category was indeed a growth industry as consumers desired more convenient, low-fat menu items. The further processed category of chicken production as measured by the USDA increased from 11 percent of ready-to-cook production in 1980 to 21 percent in 1986. Although further processed consumption is still expanding in absolute terms in 1987 it was not expanding as fast as the overall supply of chickens. The further processed category is sensitive to changes in the economy, so a slowdown in consumer expenditures could reduce the growth rate of this sector.

Broiler supplies in 1987 increased by about 8 percent from the year earlier levels. Based on USDA pullet placements, there is still sufficient capacity to expand broiler production sharply in 1988. However, the actual industry expansion rate has been less than indicated by the pullet placements. For example, cumulative broiler type pullet placements suggested that the broiler layer flock would have been up as much as 15 percent during the summer months. However, the number of broiler type chicks hatched during the summer quarter increased by 11 percent.

Lagged pullet placements indicate that the broiler flock at the beginning of 1988 could still be 13 percent larger than a year earlier. However, the actual increase in broiler output is expected to be substantially less than that. Because of the reduced broiler prices during 1987, the broiler industry has culled the layer flock much more intensively and kept the actual size of the layer flock down. Consequently, broiler production during 1988 may increase by about 4 percent from 1987 levels. If the economy would happen to slow down more than anticipated, it is likely that the industry would respond by increasing production by less than four percent for one or two quarters.

Broiler prices are expected to average in the low to mid 40's in 1988. With feedgrain prices trending higher during the year, margins in the broiler industry are expected to remain under pressure.

TURKEYS

Turkey production increased by 19 percent during 1987 and there appears to be sufficient capacity in the industry to expand output by double digit figures in 1988 if so desired. Poult placement data already indicates that production during the first quarter of 1988 will be up by 15 to 20 percent from 1987 levels. However, the industry is expected to reduce the rate of increase during the remainder of the year so that total production may be up about 7 percent from 1987 levels.

Turkey prices during early 1988 will be influenced by the movement during the Thanksgiving and Christmas holidays. Retail prices of turkeys are very attractive this year so the holdings of turkeys in freezers are expected to be sharply reduced from the record levels on hand prior to the Thanksgiving holiday. However, the apparent consumption of turkeys during the holiday period may overstate the actual disappearance of turkeys if consumers are buying one turkey for immediate consumption and another for the home freezer. Thus, prices are still expected to remain under pressure during most of 1988. Prices for turkey hens at Eastern markets are expected to average near 51 cents per pound during the year ahead, compared with 56 cents during 1987.

ANNUAL AGRICULTURAL OUTLOOK CONFERENCE

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EXPANDING U.S. POULTRY EXPORTS

Elbert M. Boyd, Jr.
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It is a pleasure to have been invited to participate in the 1987 Agricultural Outlook Conference. Thank you for taking the time to attend our session.

What is the outlook for poultry exports? To answer that question, we must look at factors such as: the U.S. domestic production, the domestic market, foreign production, foreign markets, transportation costs, currency exchange rates, export subsidies, trade barriers, the international banking system, and the commitment of industry management. We will address a number of these factors today, in order to project future potential. If you have a copy of my presentation, I will ask you later to refer to three graphs marked A-1, A-2, and A-3.

First, let us take a look at the poultry industry here at home. For the past several years, the lower cost of production and greater demand for both chicken and turkey has created record profits for the industry. During this period, foreign prices for our poultry exports have been relatively strong. The peak demand here at home has been for white meat with dark meat being generally in surplus. This surplus has been very compatible with the export markets since a large percentage of our export customers prefer dark meat.

Unfortunately, there has been a down side to this period of high profits and relatively small, but stable, export volumes. Within our foreign markets we have seen a general growth of imports from several competitor exporting countries. Effectively, U.S. industry economics permitted some countries to enlarge their poultry exports, since those countries have low cost labor, or other factors, which made export market prices attractive. I would like to point out that Japan has been the customer for more than 25 percent of U.S. poultry since 1984. If you will, please refer to graph A-1 which reflects broiler meat imported into Japan since 1976. You will note that while U.S. imports into Japan between 1976 and 1986 have grown a little over 300%, the imports from Thailand have grown over 3000%. In addition, Brazil has gained a definite foothold in Japan's market, having first shipped poultry into Japan in 1982. The point is, that

while our imports into Japan have generally increased, it has become increasingly important for us to maintain a competitive world position, because other countries are aggressively expanding exports and obtaining a greater share of some of our markets.

The domestic market picture has drastically changed during 1987, which should allow us to better compete in our export markets. We have seen rather large increases in production of both broilers and turkeys. Those increases have caused a sharp decrease in economic values for poultry. Since we are addressing exports, we must consider this a positive factor. It appears that this trend will continue. From November 1987 through April 1988, we expect an average of six (6) to seven (7) percent increase in broiler production, as compared to the same period one year earlier. November 1987 prices of most poultry items usually exported were lower than they have been in many years. Turkey production is up sharply as evidenced by a very weak turkey market price. I'm sure many of you have seen the results of this at the supermarket, where prices are 30 to 50 percent lower than last year. These ever decreasing prices have effectively filled the pipeline into the export markets. At the same time, the deteriorating prices in the United States have caused large losses on the part of importers in the foreign market. Keep in mind that a foreign customer purchases today for delivery 30 to 60 days later. If prices subsequently drop within that period, the importer's customers will pressure him to lower the value of his inventory. Once the price of our poultry stabilizes at the lower level, then the importer can increase his volume of business at a profitable level, if most other factors remain stable. Unfortunately, due to relatively low feed costs, many other countries are increasing their production, and we will still have to compete for our export market; however, production and market factors have shifted more to the favor of U.S. exports.

Another key factor that has further enhanced our competitiveness is the currency exchange rate. Within the past month, the Japanese yen has reached the highest level against the U.S. dollar since World War II, and since 1985 we have seen close to a 50 percent drop in the value of the dollar compared to the yen. This has increased the buying power of the Japanese importers and, for the past two years, we have seen a large increase in purchasing for the Japanese market. However, recently, inventories have become high and regardless of the economics, most importers have either stopped or reduced their buying to a minimum level. I believe this is a temporary condition and as soon as stocks are lowered there should be a continuation of purchasing.

To demonstrate the value of the exchange rates, please refer to chart A-2 which shows the relationship between the U.S. domestic market, the Japanese yen value, and U.S. poultry exports to Japan. Complete figures, of course, were available only through 1986. Please note how 1986 exports increased sharply as the yen became

stronger (dollar weakened), even though our domestic prices were sharply higher which, as I mentioned earlier, is not the case now.

I would like to point out that some of our key overseas customer countries, such as Hong Kong and Singapore, do not have the currency exchange rate advantage, since their currency is fixed with the U.S. dollar. However, I believe the lower market values within our industry, will allow an increase in purchasing by these countries, although the competition from other countries will be more keen.

Other factors for expanding exports to many customer countries are quite favorable. Transportation costs are generally reasonable, and stable. The United States government is offering Export Enhancement programs for certain countries. Other countries such as Korea and Taiwan are rumored to be potential new customers during 1988.

There are trade disincentives that fall heavily on the negative side of the ledger. It is far more expensive to service a foreign customer. The simple act of meeting the customer at his facility can cost several thousand dollars, and several days in travel time. Communication is costly when using phones or telexes, and bridging the language gap is difficult, sometimes leading to expensive misunderstandings.

The governments of importing countries often have stringent requirements for poultry quality, packaging, or labeling and, of course, charge import duties or taxes in varying amounts. The United States government passes laws that sometimes impede the expansion of exports. As an example, in 1971 the Congress passed a law allowing partial deferment of taxes on products produced in the U.S. and consumed in the overseas markets. This assisted exporting efforts by making it easier to justify the higher costs mentioned earlier in developing and maintaining overseas business. The law allowed the creation of a Domestic International Sales Corporation, which was referred to as a DISC. The DISC, in its original form, was abolished in 1984, thus taking away a valuable export incentive. The new law allowed for an overseas DISC which is practical only for high volume exporting companies.

Another disincentive to exporting was passed into law in the 1986 Revenue Act. Export shippers are now required to make quarterly reports and payments of a harbor use tax, which is an added burden, in time and money, on already slim export profit margins. Even with the disincentive factors I have mentioned, I believe most economic factors are now in place to facilitate the most phenomenal growth ever, in our poultry exports.

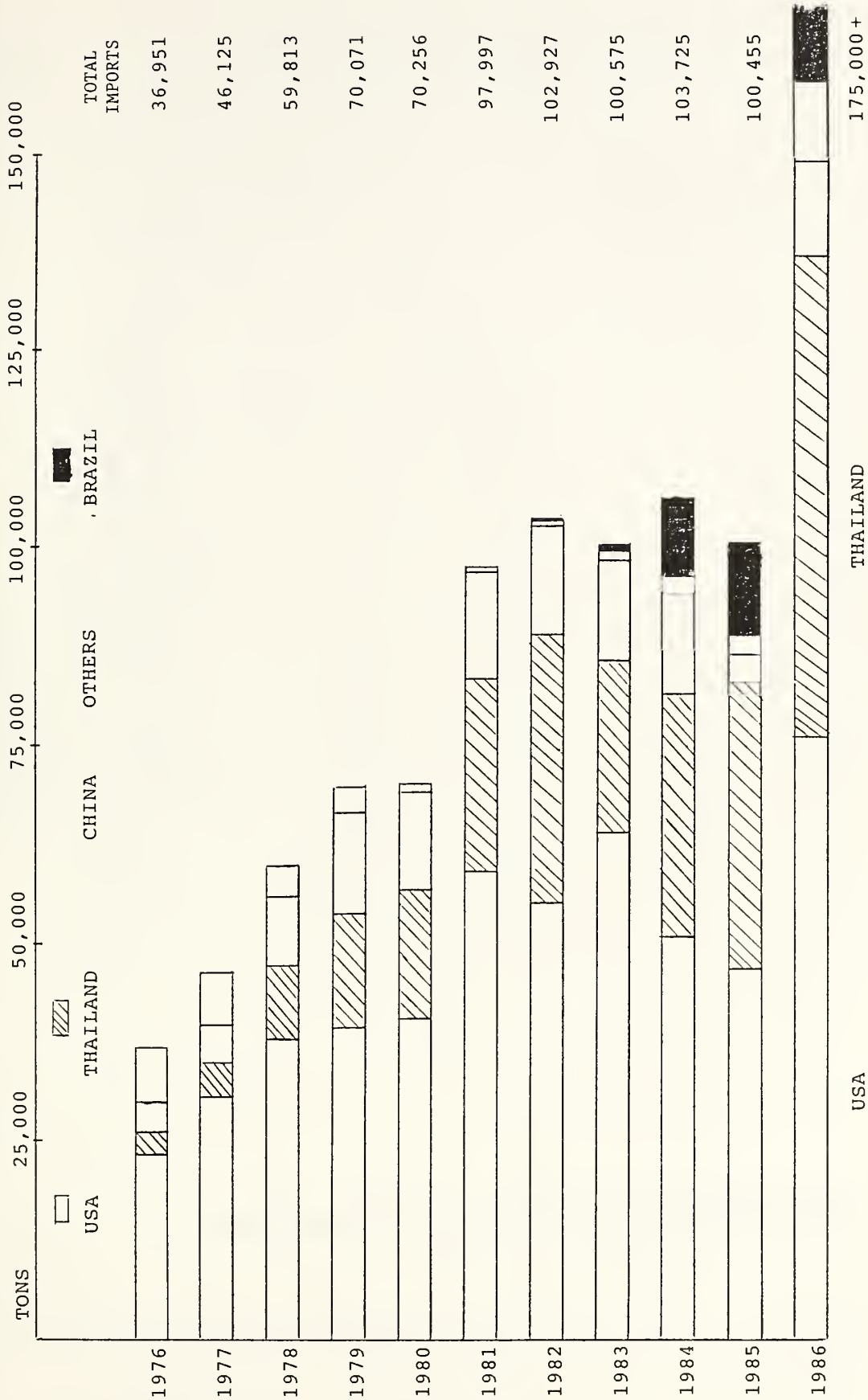
It is my understanding that I have been invited here to present my views, supported by facts, concerning the future of poultry exports from the United States. The factors in place will not finally

dictate the future of our exports. That future will be decided by the attitude and commitment of management within our poultry industry, and the commitment of Americans in general, to international business. As an industry, the concentration on exports has been very limited. I believe this limited effort is demonstrated in chart A-3 which shows 1984 exports at about 2.8 percent of production, while 1987 is projected at about 4 percent of production. Even with the increase, it is a miserably small portion of our production. Furthermore, there has been little effort by our industry to tap resources available to us to help expand exports.

I read with interest an article in the November 1987 issue of INC. magazine headlined "Reagan's Secret Export Program." While I believe it is unfair to our President to connect him with this article, I do believe the article contains a number of significant points. First, it points out that the United States government, through the Commerce Department, is providing a great deal of manpower to develop information which is not generally known to the public. Possibly the government is not doing enough to circulate information, but I strongly believe the industry is falling far short of making sufficient effort to find and use the information that is available. Another key point in the article is a statement that "a mere 250 companies still account for more than 80% of U.S. exports, while another 30,000 judged to have export potential sit on the sidelines." I believe that is a profound statement which should guide us in our future efforts to expand exports.

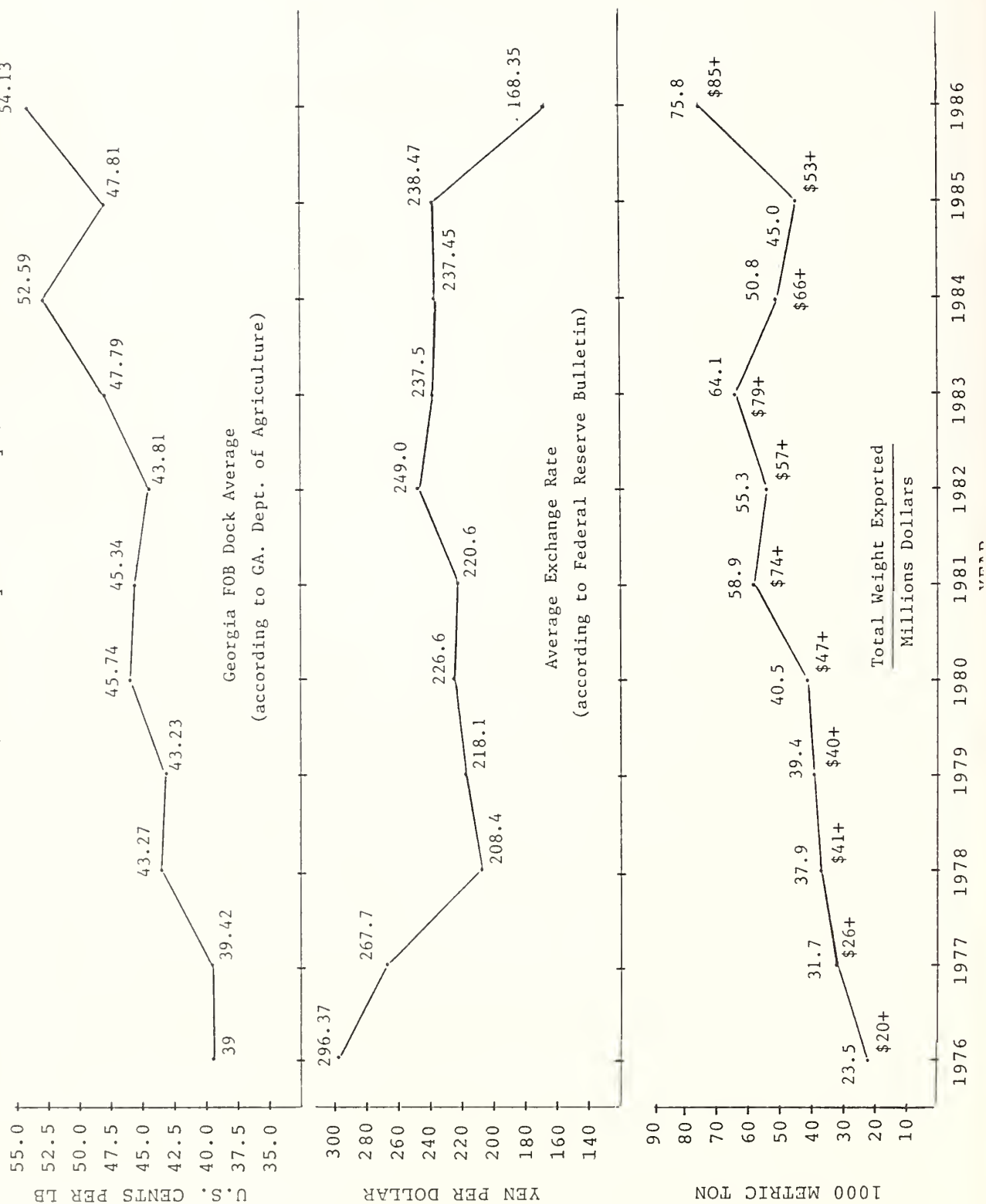
In summary, the factors are in place and government is more ready than ever before to help us grow our exports. With the commitment of management to serve the export market, and the commitment of staff to produce quality products required by our customers, the outlook for United States exports of poultry is brighter than ever before.

JAPAN BROILER IMPORTS - COUNTRY OF ORIGIN
(Presented by Elbert Boyd)

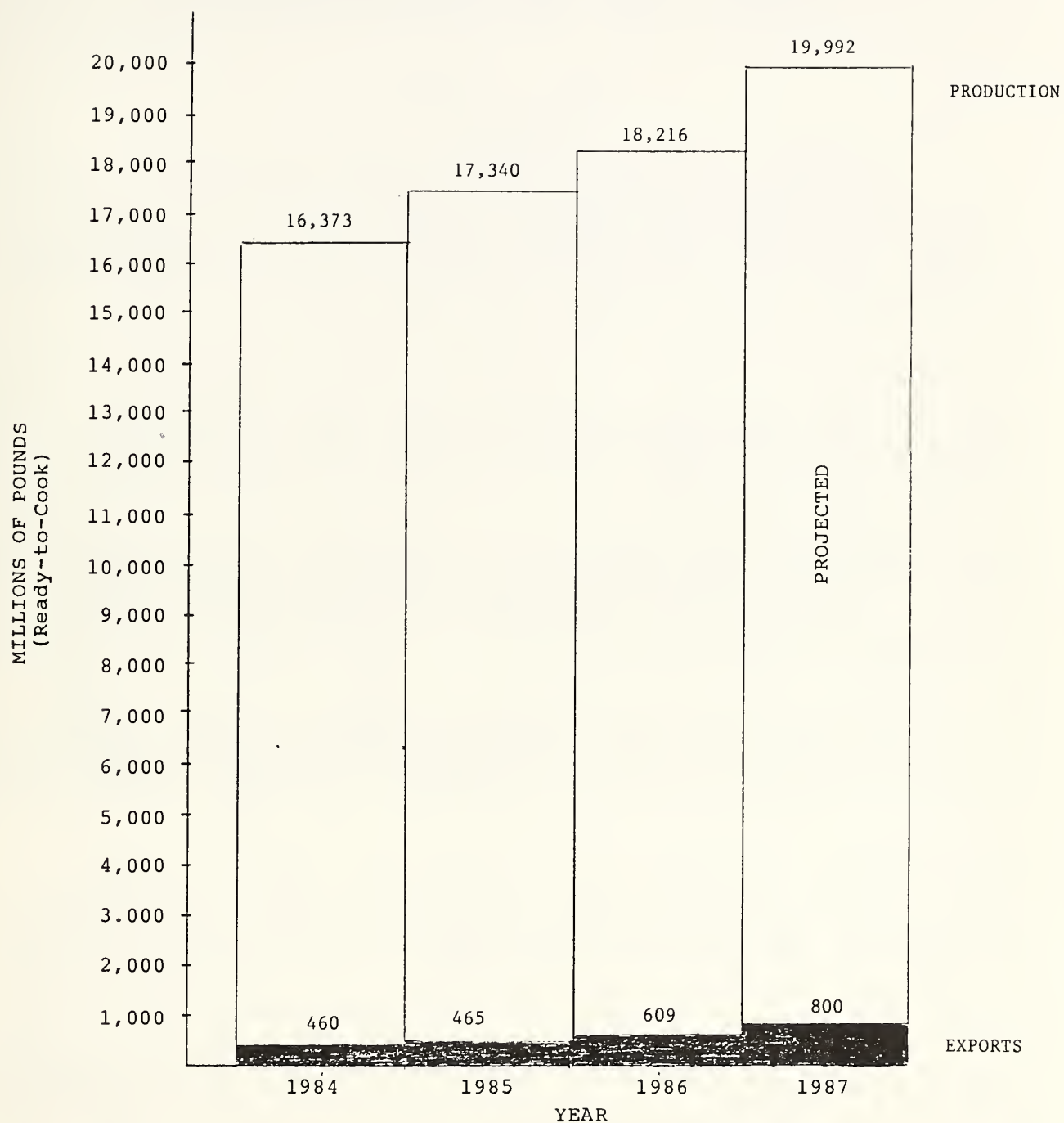


INCLUDES PROJECTIONS FOR NOVEMBER & DECEMBER 1986

FACTORS AFFECTING U.S. POULTRY EXPORTS TO JAPAN (Presented by Elbert Boyd)



U.S. POULTRY PRODUCTION & EXPORTS
(Presented by Elbert Boyd)



(SOURCE: USDA AGRICULTURAL OUTLOOK, AUGUST 1987)

PRODUCTION 
EXPORT 

ANNUAL AGRICULTURAL OUTLOOK CONFERENCE

United States Department of Agriculture
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Outlook '88, Session #9

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OUTLOOK FOR DAIRY

James Miller
Agricultural Economist, Economic Research Service

A confusing year for the dairy industry is approaching its end. The Dairy Termination Program (DTP) has clouded interpretation of 1987 milk production patterns. Price relationships have been unusual and growth in commercial use has been erratic. The extraordinary uncertainty of 1987 should diminish next year, as the dairy industry adjusts to life after the DTP.

Production

Milk production in 1987 will total about 1 percent less than 1986's 144.1 billion pounds, only the third annual decline since 1975. Production declines, both this year and in 1984, were caused by Government programs that paid producers to curb output.

Milk production was sharply below a year earlier during the first half of 1987. The DTP had dropped cow numbers far below the high levels of a year earlier. As 1987 progressed, milk production moved closer to the sliding levels of 1986. Output during the second half of 1987 has run above the DTP-depressed production of last year.

Milk per cow has posted strong gains throughout 1987 in response to record milk-feed price ratios and heavier concentrate feeding. The annual total probably will rise almost 3 percent, well above the longrun trend. However, monthly data have shown erratic gains in milk per cow. Between July and October, the increase from a year ago jumped from 2 to 5 percent.

Milk cow numbers declined every month between January 1986 and May 1987, primarily because of the DTP. Since then, cow numbers have been basically steady. Non-DTP producers apparently expanded rapidly in mid-1986, but have held about steady or grew just slightly in 1987. The 1987 average cow herd probably will fall almost 4 percent from 1986.

Feed Prices

Average concentrate values have been stable since late 1986. This year's average will be around \$6.75 per cwt, down about 3 percent from a year ago. Much of the 1987 decline in feed ingredient prices was absorbed in a wider spread between feed ingredient prices and ration value. Feed ingredient

prices probably will rise next year, mostly because of higher corn prices. However, much of the rise in ingredient prices may be absorbed by narrowing this year's wide spreads. The 1988 average ration value probably will be slightly higher than this year's.

Average farm milk prices, after adjustment for support-program deductions, are rising slightly in 1987, while feed costs are down a little. The effective milk-feed price ratio probably will nose out 1982's 1.83 for a record. Returns over concentrate costs will average close to 1984 and 1985, up about 3 percent from 1986.

Output in 1988

The outlook for 1988 milk production is a mixed bag of factors. Slaughter cow prices probably will stay well above the levels of most recent years and may stimulate some marginal culling. The replacement heifer herd remains ample, if not quite as large as in some recent years. Both farm and off-farm alternatives are relatively more attractive than during the early eighties but are still lackluster.

At the start of 1987, almost a fifth of dairy farms had serious financial difficulties. However, dairy farmers generally were in better financial condition than at the start of 1986--even though 1986 returns over concentrate costs were the lowest since 1979. Milk producers were quite successful at lowering nonfeed cash costs. With 1987's higher returns over concentrate costs, dairy farmers may have improved their position further.

The upcoming action on the support price may be the most important factor. If the support price is not reduced on January 1, milk-feed price relationships probably would be similar to this year's. Another very strong gain in output per cow would be indicated, while cow numbers might hold steady or edge upward. On the other hand, a 50-cent reduction in support price probably would lead to a more moderate rise in milk per cow and possibly some slipping in cow numbers.

Milk production in 1988 will increase once again. It is unlikely that prices have been reduced enough to blunt the forces which have caused a more than 15-percent expansion since 1979. The 1988 rise is expected to be 1-3 percent, and milk production probably will set a new record.

Prices

Prices in milk and dairy markets have been in turmoil during most of 1987. Wholesale prices of dairy products were close to support purchase prices in early 1987, but farm milk prices were sluggish in declining from the late-1986 seasonal peak. Supported in part by relatively tight commercial stocks, milk prices were buoyant throughout the first half of the year. A fairly strong seasonal price rise during June-August was cut short in late September by counterseasonal drops in wholesale prices. The price declines were precipitated by a surge in milk per cow and an easing of wholesale buying activity.

Milk prices were above a year earlier during the first half of this year, but late-1987 prices will fall considerably from a year ago. The 1987 average will be close to 1986's \$12.51 per cwt. The effective milk price will be slightly higher than a year ago because of this year's lower average

support-program deduction. The 1988 milk price will be greatly affected by the support price. If the January 1 reduction is not made, next year's average may be similar to the 1987 effective price. A 50-cent reduction probably would leave 1988 prices well below this year's and the lowest since 1978.

The farm-to-retail spread again expanded modestly this year. With unchanged farm prices, this growth probably will result in retail dairy prices averaging about 2 percent higher this year. Increases have been larger for manufactured products than for fluid milk. This year will be the seventh straight year in which retail dairy price rises trailed those of all foods and all consumer items. Next year is expected to be the eighth, as retail dairy prices probably will be unchanged to up 2 percent.

Stocks

Commercial stocks of dairy products have run at fairly low levels throughout 1987. Unlike last year however, these holdings were adequate for market needs. Stocks in storage warehouses in late spring may have been augmented by unusual amounts of milkfat in other stocks. These pipeline inventories probably have been worked out by now. By yearend, commercial stocks probably will be low in anticipation of the possible support price reduction.

Government stocks have dropped this year. Purchases fell sharply while donation use has stayed high. By yearend, Government stocks will be the smallest since 1979 and might be the least since the mid-seventies. This stock drawdown means that Government supplies in 1988 will be smaller than the donation usage of recent years.

Commercial use

Commercial use in 1987 continued to be driven by falling real retail prices, economic growth, and heavy promotion. However, the growth rate may be slackening. After a strong first half of 1987, commercial disappearance has become a little ragged. Second-half expansion may be modest but total 1987 commercial use probably will post a healthy 2-percent rise. During the last 10 years, commercial use has grown 20 billion pounds, two-thirds of which has occurred in the last 4 years.

Increases in commercial use in 1987 have relied on very strong disappearance of butter and cheese. Sales of fluid milk and other products have not maintained the pace of the preceeding 3 years. This qualitative change is the first sign of a possible faltering of the broad, sustained growth experienced since 1983. The three-year-old step up in promotion efforts may be losing the ability to further accelerate expansion. The economy probably will continue to grow next year, although prospects are less sure than in recent years. With continued favorable retail dairy prices, commercial use probably will rise 1-3 percent in 1988.

Purchases

Government purchases picked up after the September-October price collapse. The purchases during the last third of the year probably will bring the 1987 total to about 6 billion pounds. This year's removals will be little more than half of a year ago and the smallest since 1979. Purchases of butter, cheese, and nonfat dry milk were all down sharply from a year ago.

World Dairy Situation

World milk production in 1987 will be down about 1 percent, because of policy programs in the European Community (EC) and the United States and because of drought in India and New Zealand. The EC continues to reduce milk production quotas as a part of a program to reduce their massive intervention stocks. Most other major producing countries will have output similar to a year ago, except for large increases in Mexico, Brazil, and Argentina. A slight increase in world milk production is expected next year, as the longrun uptrend reasserts itself.

International prices of nonfat dry milk and casein have risen substantially, as strengthened demand clashed with lower nonfat dry milk production in the United States, the EC, and New Zealand. With stocks down sharply, prices probably will stay strong in 1988. The international cheese situation has been fairly stable, with generally weak prices showing some signs of firming. However, the international butter markets remain badly depressed. Huge stocks continue to overhang the market, despite the EC's efforts to reduce stocks.

Summary

Next year probably will be one of adjustment for the dairy industry. The combination of support-price reductions and the DTP has reduced the size of the surplus problem dramatically. Milk production and commercial use in 1988 probably will grow at rates similar enough to leave purchases at significant--but manageable--levels. Changes brought about by the DTP and by fundamental shifts in milk production and use have left an industry much different than the industry of only a few years ago.

ANNUAL AGRICULTURAL OUTLOOK CONFERENCE

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Outlook '88, Session #9

For Release: Wednesday, December 2, 1987

DAIRY POLICY SITUATION AND OUTLOOK

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Introduction

The U.S. dairy policy situation outlook is confused and uncertain. The 1985 Food Security Act dairy provisions were passed with the purpose of eliminating the nearly annual policy uncertainty experienced by the dairy sector since 1981. At the time, few observers anticipated that the Secretary's decision on whether or not surplus purchases for calendar year 1988, would be as close to the five billion pound trigger level specified by the 1985 Act as they are turning out to be. There is little doubt that estimated 1988 CCC purchases will exceed five billion pounds. The dairy industry will on January 1, 1988, experience the second 50 cent price support cut ordered by the 1985 Food Security Act.

At the time this paper was written, the dairy policy scene is as uncertain as it has been during the rest of the 1980's. The uncertainty is being generated by macro-economic forces outside the dairy sector. The outcome or lack thereof, of the Washington budget summit negotiations may result in additional price cuts, per hundred weight assessments, or other yet unforeseen changes to basic dairy markets and policy. In my brief time with you today I would like to concentrate on another set of macro-economic forces influencing the operation of current dairy policy. My major premise is that the 1985 Food Security Act's feed and food crop provisions set in motion market-place dynamics which are making balancing the U.S. dairy sector difficult if not impossible.

Impacts of the 1985 Food Security Act to Date

The DTP Worked

The dairy provisions of the 1985 Food Security Act had two main components. The first was the Dairy Termination Program (DTP). The DTP was designed to be a temporary program to eliminate excess animal capital stock from the dairy sector. By historic trends between 1950-78, the U.S. dairy herd level at the beginning of the DTP program was over a million animals too large. These excess animals were generated by the generous dairy provisions of the Food and Agriculture Act of 1977. The DTP had the effect of eliminating excess cows and calves and nearly put the industry back on a herd size trend line more conducive to supply and demand balance. The conditions observed in the milk markets the last two years indicate that the DTP was fairly successful in achieving its goal of eliminating excess dairy cattle capital from the industry.

Price Support Cuts Designed to Maintain Industry Balance

While the DTP was designed to move animals out of the industry, the price support cut provisions of the 1985 Act were designed to keep them out of the industry. The 1985 Act calls for a total of \$2 in potential price support cuts. The 1987 price support cuts are now history and the 1988 cut (to \$10.60 per hundredweight) is very likely. The \$2.50 reduction in dairy price supports since 1983 have been accomplished without the use of income-cushioning deficiency payments. Without income support, producers increase production to make up for lost cash flow resulting from lower market prices. This phenomena will continue. With every additional price support cut, another group of dairy businesses reaches the financial stress point where their final attempt at survival includes production increases to make up for declining cash receipts.

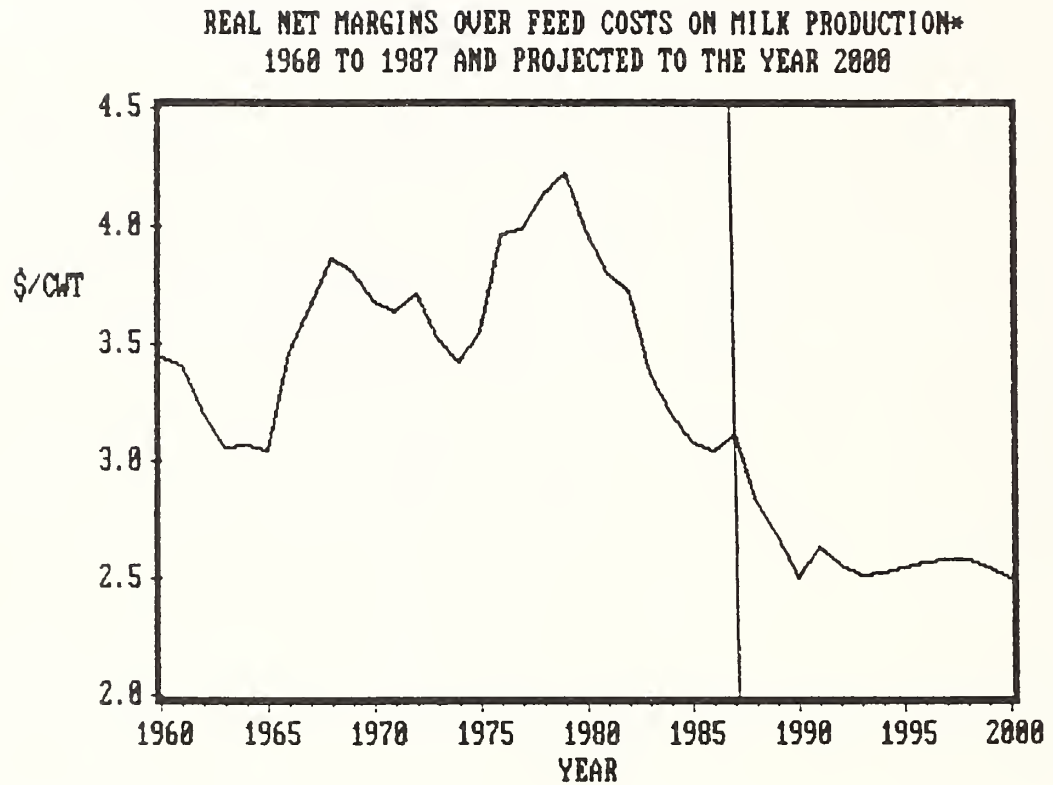
The 1985 Act calls for two additional price support cuts in 1989 and 1990 if milk production continues to exceed commercial demand by more than 5 billion pounds. Figure 1 vividly documents the consequences of the dairy provisions of the 1985 Food Security Act. The projections contained in Figure 1 were generated from AGMOD, a micro-computer model of US and world agriculture adapted by Professor John Ferris of the Department of Agricultural Economics at Michigan State University. Figure 1 presents the AGMOD generated real net margins over feed costs on milk production between the years 1960 and 1987. The projections through the year 2000 result from dairy returns interacting with the rest of the agricultural economy.

Should the remaining \$1 cut in dairy price supports come in the next two years, real net margins in dairy will fall to historic low levels. At the end of 1987 net margins in dairy approached those of the very tough dairy years of the mid 1960s. By 1989, according to the model, dairy farmers will have only about \$2.50 in real margins to cover their remaining variable and all of their fixed cost obligations.

Given that the projected margins shown in Figure 1 are relatively accurate, the 1985 Act sets in place some dramatic production adjustments within the dairy sector. These adjustments are being conditioned by the fact that there is dramatically different cost structure within the US dairy industry. Table 1 illustrates this with a few selected regions taken from the USDA's Cost of Production statistics. Table 1 shows the relative changes in cash costs for milk production by selected regions between 1983 and 1986. The numbers illustrates the dramatic difference in cost structure between the Upper Midwest and the Pacific and Southern Plains regions. In 1986 the Upper Midwest's total fixed cash expenses were more than double those of the Pacific region. The Pacific region's feed costs account for almost 56 percent of its cash expense compared to 46 percent of the Upper Midwest's. In 1986 after paying all of their feed costs, a Pacific region producer had \$1.21 less obligation on their remaining margin than did the Midwest producer.

The grain provisions of the 1985 Food Security Act are very detrimental to the dairy industry's attempts to regain supply demand equilibrium. In order to regain lost commercial markets, the 1985 Act forces low market prices while it subsidizes grain producers incomes with high taxpayer financed deficiency payments. Even though price supports in dairying are reduced, the cost structure for dairying is declining.

Figure 1



*1967 DOLLARS

Source: Prepared by Professor John Ferris using AGMOD, a Micro-Computer Model of U.S. and World Agriculture, Department of Agricultural Economics, Michigan State University.

**Table 1 Relative Changes in the Cash Costs of Milk
Production by Selected Regions, 1983 and 1986**

	Regions ^{1/}					
	Upper Midwest		Pacific		Southern Plains	
Cash Expense	1983	1986	1983	1986	1983	1986
	- - - Dollars per cwt - - -					
All Feed ^{2/}	\$4.07	\$3.85	\$ 6.22	\$4.95	\$ 6.43	\$ 5.37
Total Variable	6.85	6.32	9.24	7.61	9.65	8.32
Total Fixed	2.94	2.71	1.63	1.31	1.77	1.97
Total Cash Expense	9.79	9.03	10.87	8.92	11.42	10.29
Percent Change in Total Cash Expense	-7.8%		-17.9%		-9.9%	

SOURCE: Economic Indicators of the Farm Sector: Costs of Production 1985, 1986, published by the Economic Research Service, USDA 1986 are official preliminary estimates.

^{1/} The USDA Cost of Production Survey regions have the following state groupings: Upper Midwest -- Michigan, Wisconsin, Minnesota and South Dakota; Pacific -- California and Washington; and Southern Plains -- Texas.

^{2/} Silage, concentrates, hay, pasture and other forages and haylage.

The cost decline is regionally biased. The last row in Table 1 illustrates this dramatically. From 1983 through 1986 dairy producers in the Western regions of the United States saw their total cash expenses decline 10 percent more than their colleagues in the Upper Midwest. This is largely because of the reduction in feed costs associated with the 1985 Act grain program provisions.

Some of the billions of dollars going to grain producers in the United States is actually showing up as income to dairy producers. To illustrate this the following simple (or simple-minded) example is presented. According to the USDA 1986 the full economic costs of production for corn in the United States was \$2.04 a bushel. The USDA reported the average cash price received for corn in 1986 was \$1.45. The 1985 Food Security Act forces corn on the market for 59 cents a bushel below cost. If we assume that the US dairy industry consumed approximately 20 million metric tons of corn in 1986, the below cost subsidy amounted to approximately \$465 million or about 2.6 percent of farm cash receipts from dairy products in 1986. The government programs for cotton, rice, and sugar subsidize the byproduct feeds from those crops. In addition, past provisions that allowed for hay harvest off of set-aside acreage further reduce the feed costs. The implicit export subsidies to U.S. feed grains are also displacing markets for foreign feed substitutes (like cassava) which are beginning to find their way to U.S. dairy animals.

Even with the dairy industry's dramatic attempts to lower its price support and reduce its obligation to the U.S. taxpayers, the operation of the other aspects of the 1985 Act prevent the dairy industry from gaining headway. The milk/feed price ratio still stands at historically high levels and although it will likely fall in 1988 production incentives will still exist. It is virtually impossible to balance livestock sectors when feed producers are being paid \$20 billion to sell below cost feed.

Dynamics Put in Place by the 1985 Food Security Act

The combined impacts of lowered price supports, lowered feed costs and lower fixed cost production technology in several regions of the United States are combining to generate interregional stress within the U.S. dairy industry. Regional concerns in the dairy industry are not new. What is new, however, is the degree to which these regional stresses are beginning to predominate the industry's agenda.

The economic advantages enjoyed by the Pacific and Southwest production regions in the U.S. dairy industry are well documented.¹ When those inherent economic advantages are combined with the systematic bias in cost structure embodied in the 1985 Food Security Act, the consequences on dairy production are quite evident. Tables 2 and 3 illustrate this point dramatically. Table 2 estimates the price-cost margin for three selected dairy regions for 1986. As the last column of Table 2 indicates there currently exist tremendous incentives for increased production in the Pacific and Southern regions of the United States. Although these margins emanate from some fundamental economies, the differentially lowered costs (Table 1) exaggerate these margins.

¹ For a complete discussion see Boyd Buxton, "Evidence of Comparative Advantage Among U.S. Milk Production Regions," in Proceedings of the Forty-Second Midwest Milk Marketing Conference, Department of Agricultural and Applied Economics, University of Minnesota.

**Table 2 Price - Cost Margins for Selected
Dairy Regions 1985-1986**

Region	Average Producer Prices ^{1/} _{2/}	Full Economic Costs of Production ^{3/}	Price-Cost Margin
- - - - - Dollars per Hundredweight - - - - -			
<u>1986</u>			
Upper Midwest	11.69	11.75	-.06
Pacific	11.82	9.43	2.39
So. Plains	13.19	11.25	1.94

^{1/} For the Upper Midwest and Southern Plains, the prices are the weighted average blend price for Federal Orders predominantly within the state groupings defined in the USDA cost of production regions. Prices were calculated by Ed Jesse and Bob Cropp and reported in "Regional Pricing of Fluid Milk," Marketing and Policy Briefing Paper No. 17, Department of Agricultural Economics, University of Wisconsin, Madison, WI.

^{2/} The Pacific region prices use the average prices paid for all whole milk in California and the minimum Federal Order blend prices for the Washington and Oregon Federal Orders weighted by the production in each State.

^{3/} Full economic costs are cash costs less interest expense plus depreciation and imputed returns to assets and unpaid labor and management. For a complete explanation of USDA Costs of Production, see Economic Indicators of the Farm Sector: Costs of Production, 1985, published by the Economic Research Service, U.S. Department of Agriculture.

Table 3 documents the change in production by non-participants in the DTP and new producers coming into the market since 1985 for the top ten dairy producing states in the U.S. The numbers dramatically illustrate that economic incentives do work. California, Texas, and Washington all have had substantial non-participant increases in milk production. These increases are particularly notable because of the decision rules being used for making price support cuts under the 1985 Food Security Act.

The 1985 Act specifies that prices for all dairymen must be cut if surplus purchases are anticipated to exceed five billion pounds. By making every producer's paycheck dependent upon a discreet surplus trigger level, every producer in the US is sensitized as to the magnitude and location of CCC surplus purchases. For Fiscal Year 1985-86, California and Washington produced approximately 14.5 percent of the milk supply. They, however, sold nearly 33 percent of the products bought by the CCC (as measured on a milk equivalent total solids basis).² These trends continue this year adding continued fuel to regional stresses within the U.S. dairy system.

Some Possible Policy Consequences of Regional Stress

Price Support Program

The 1985 Food Security Act established a National Commission on Dairy Policy to evaluate possible changes to the dairy price support program. After a series of meetings held around the country, the Commission is recognizing the extent of regional differences. Also, the Chairman of the U.S. Senate Agriculture Committee recently introduced the Dairy Farm Protection Act. This proposed legislation has as its central feature regional quotas of sales to the CCC and regional assessments to cover the cost of any sales in excess of those quotas. The Dairy Farm Protection Act is the first formal attempt to try to adapt the price support system to reflect regional economic and sociological pressures.

Given the policy uncertainty regarding the general budget situation and the possible Gramm-Rudman-Hollings Act cuts and/or assessments, this regional approach to dairy price support will probably remain dormant for the time being. However, it is the intent of the Dairy Farm Production Act to spur debate about regional issues within the dairy sector. In the absence of any significant changes in the feed cost structure for the dairy industry, regional pressures with its associated "California bashing" will continue.

Implications for the Federal Order System

As the capacity to produce increases dramatically in the West and Southwest, excess capacity within the U.S. dairy sector is being once again developed. The fundamental economics of specialized West Coast dairying, an independent California state regulatory system, and a California industry policy of self-sufficiency, is shifting and will continue to shift this excess capacity adjustment to the Upper Midwest region of the United States. As the Upper Midwest looks for markets for its displaced milk, pressure will build on the Federal Milk Marketing Order System. This pressure is

² Ed Jesse, "CCC Dairy Product Sales by State, 1985-86 Marketing Year," Marketing and Policy Briefing Paper No. 16, Report of Agricultural Economics, University of Wisconsin.

**Table 3 Change in Production From September 1985
to September 1987 by Non-DTP Participants
in the 10 Leading Dairy States**

State	Change in Production of Non-Participants and New Producers	
	(Mil. lbs.)	(PCT)
Wisconsin	122.0	6.2
California	307.8	24.2
New York	3.6	.4
Minnesota	11.6	1.6
Pennsylvania	10.7	1.3
Michigan	14.8	3.6
Ohio	8.0	2.1
Texas	66.5	25.0
Iowa	-38.7	-12.0
Washington	41.8	15.5

Source: John P. Rourke, Briefing Paper 87-10, Market Information Branch, Dairy Division AMS, USDA Reported In Dairy Market News Vol. 54, No. 46, p. 8.

embodied in the renew calls for changing the Federal Order System in two significant ways. First, is redoing the Federal Order System to eliminate the single base-point pricing system and establishing either a single national order or several larger regional orders with multiple base-point pricing. It is argued that this would allow Upper Midwest producers to share in the higher Class I utilization of Southern and Northeastern markets and would more accurately reflect the current economics of interregional milk movement. Second, there will be a renewed call for allowing the use, without penalty, of reconstituted/reformulated milk products. Both of these changes would cause milk marketing trauma. Thus the East-West regional conflict will spread into other regions of the United States.

Implications for Other Dairy Industry Institutions

Regional stress will carry forward into other dairy industry institutions also. There are already signs that the hereto model dairy industry advertising and promotion effort is in jeopardy partially due to regional perspectives and concerns. It is only a matter of time before the fundamental economic forces put in place by changing dairy markets in the 1985 Food Security Act will cause disruption in nearly all national level dairy industry service organizations.

Regionalism has the potential to threaten dairy industry unity which has been largely responsible for much of the dairy industry's economic and political success over the past two decades. There are interests that stand to benefit economically and politically from any dairy sector disarray. Over the long run the US dairy industry has much to lose from not directly addressing the significant regional stresses now evident in the industry.

Some Personal Observations and Conclusions

In my opinion, the dairy provisions of the 1985 Food Security Act have gone a long way to bring you the dairy industry into near supply demand equilibrium. However, production increases are beginning to mount. Those less friendly to the dairy industry and casual observers will again point to the increase in production following the end of the DTP as another verification that dairy industry policies are incapable of solving dairy industry problems. It is impossible to balance the dairy sector or any other livestock sector with the current false economic signals being given by the operation of the 1985 Food Security Act. Markets and their individual market participants cannot distinguish between real economic prices and false economic prices put in place by government policies and subsidies. Therefore, the dynamics put in place by the 1985 Food Security Act will force dramatic restructuring of the U.S. dairy sector. Some of that restructuring and shift of dairy production location is justified by legitimate economic forces. However, another proportion of that adjustment is taking place because of transitory policy phenomena.

The policy uncertainty caused by recent and impending budget law changes may allow for consideration of alternative dairy policy proposals. Should the debate of alternative dairy programs commence in 1988, the dairy industry must recognize the pervasiveness of economic forces beyond the control of the dairy sector. Alternative policies and proposals must be designed with these kinds of forces in mind.

Finally, continued surplus production will probably be pervasive within the dairy sector. Whether those surpluses will be oppressive will depend on many factors both inside and outside the U.S. dairy sector. However, if the dairy sector remains closed to foreign competition and dairy income maintenance is a major goal, some program provisions for supply management will probably be necessary in the future. Moving toward a more formal supply management program will require close national dairy industry interaction. Perhaps at that time there may be a general recognition within the industry of the need for some form of supply management, the economic competition set in place through regional interests may preclude the successful adoption of a reasonable supply management plan.

Conclusion

The dairy policy outlook and situation is probably as confused now as in any time in recent memory. At the time this paper was written it is possible to predict the direction (down) the price support will go, but impossible to predict the magnitude or form of the decline. The dairy industry is not far out of equilibrium. Recent experiences with the Dairy Termination Program and the Milk Diversion Program illustrate how rapidly the dairy industry can come into supply-demand equilibrium. There is, however, the inherent bias toward continued surplus production because of natural productivity increases and evolving technological developments. The industry can probably adapt and manage around this historic long term trend. However, continuation operation of the current 1985 Food Security Act for several more years may be too much for the dairy industry institutions to manage.

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HOW THE U.S. DAIRY INDUSTRY WOULD FARE UNDER FREER TRADE

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INTRODUCTION

The world market for dairy products is so distorted by the protectionist policies of most of the major milk producing countries of the world that producer prices for milk are now being determined almost exclusively by governments rather than by the forces of supply and demand. The countries in this list include the U.S., Canada, and all of Western Europe. In almost all such countries, governments maintain domestic prices well above competitive levels as they endeavor to protect local dairy farmers and local milk processors. But high price levels inevitably lead to overproduction which in turn leads to high government costs associated with absorbing the surplus and disposing of it at distressed or subsidized prices (either locally or in foreign markets), or to strong production control measures, or both. Furthermore these high price levels must be protected with high import barriers. All this means distorted trade patterns, reduced world price levels, tremendous budgetary drains on the protectionist countries' treasuries, and social losses in the form of a misallocation of resources not only in the protectionist countries but also in those countries whose dairy producers suffer lost markets as a result of the protectionist policies of others. In general, production, consumption, and trade have been distorted, and prices in the international market have not been allowed to coordinate supply and demand at anything approaching a global social optimum.

Time will not permit a review of the dairy policies of the major milk producing countries of the world.^{1/} Rather I will briefly review recent trends

This paper is based on M. C. Hallberg and Woong-Je Cho, "The World Dairy Market --- Policies, Trade Patterns, and Prospects". Dept. of Agr. Econ. & Rural Soc., The Pennsylvania State University, A.E. & R.S. #191. August 1987.

^{1/}For such a review see Hallberg and Cho, op. cit.

in milk production and trade patterns around the globe that have resulted from the dairy policies currently in place. Secondly I will examine the likely consequences to the U.S. dairy industry of removal of all protectionist measures and trade barriers in dairy. This examination should then permit us to identify the advantages and disadvantages, if any, to the U.S. if trade liberalization were to occur in dairy, and to speculate as to the prospects for increased exports of U.S. dairy products. This does not mean that I predict the removal of all protectionist measures and trade barriers in dairy in the near future! Indeed I think that most unlikely. Rather I engage in these exercises in the hopes that they will reveal what the U.S. stands to gain or lose from freer trade in dairy. More specifically I hope these exercises will help us determine whether or not the U.S. should attempt to be involved at all in international trade in dairy products.

WORLD SUPPLY-DEMAND BALANCES IN MILK

During the last two decades world milk production has grown at an average annual rate of 1.33 percent.^{2/} Production grew rapidly in the 1960s until large quantities of surpluses accumulated and world prices trended downward. During 1968-70 supply management actions taken by the developed countries coupled with consecutive years of bad weather halted production expansion, liquidated surplus stocks, and boosted dairy prices. Production began to rise again in 1972 in both the EC and the centrally planned countries. Following the world food crisis of 1975, production expanded even more rapidly stimulated by favorable feed prices and accelerating imports from developing countries. Although growing surpluses forced world dairy prices downward in the late 1970s, production continued to increase in the major dairy countries. By 1984, expansion of world milk production encouraged the U.S. and the EC to institute supply control measures.

Growth in milk production has varied considerably among countries. In the developed economies where about 60 percent of the world's milk was produced in 1966, milk production increased at an average annual rate of 0.81 percent between 1966 and 1984. In the developing and centrally planned economies, milk production increased at an annual rate of 1.56 percent over the same period.

The EC accounted for about 60 percent and the U.S. for about 20 percent of the increase in the developed area's milk production. After a sharp increase during 1965-68, EC milk production dropped following adoption of a unified EC dairy price policy in 1968. In 1972, EC milk production began climbing again spurred on by technological improvements and high domestic prices relative to

^{2/}For the purposes of this discussion, unless otherwise noted, the world includes the U.S., Canada, Australia, New Zealand, the EC-12, other Western European countries (Austria, Switzerland, Sweden, Norway, and Finland), the Soviet Union, other Eastern European countries (Czechoslovakia, East Germany, Hungary, Poland, and Yugoslavia), Japan, Argentina, Brazil, and India.

world prices. U.S. milk production has fluctuated considerably more than has that of the EC. Before 1976, milk production in the U.S. had been stagnant at a level near or below that of 1966, then increased sharply in 1976-78, and stagnated again through 1980 at slightly less than the 1965 level.

In the non-EC Western European countries where the dairy industry is also heavily protected, milk production has grown at about the same pace as in the EC. New Zealand experienced modest production growth until 1983 but recorded a sharp increase in 1984 in response to the retraction in milk production by the EC and the U.S. Production in Canada and Australia fell during this period despite a positive growth in output per cow. Production in Japan grew at an annual rate of 4.2 percent!

Milk production in the developing countries expanded at a steady and somewhat higher pace between 1966 and 1984. Individual countries with relatively high growth rates include India (5.2 percent), Brazil (3.2 percent), and Argentina (1.3 percent). In the Soviet Union --- the second largest milk producer in the world --- milk production increased at an average annual rate of 1.4 percent over the 1966-84 period.

With the exception of the first half of the 1970s, when feed prices rose sharply everywhere, yields per cow increased steadily from about 3500 kg/cow to 4600 kg/cow for an annual rate of increase of 1.4 percent. The number^{3/} of cows declined over this same period at an annual rate of about one percent. The growth in milk production per cow has been due primarily to genetic improvements in the animal and to favorable feed and milk prices.

There is considerable variation in milk output per cow and in its growth rate across countries. The annual growth rate in milk production per cow has exceeded 2 percent in Japan, the U.S., Canada, Scandinavia, France, and Italy during the past two decades. In Australia and New Zealand where dairying relies mainly on pasture for a source of feed, yield per cow is considerably lower and has grown at more modest rates. Japan has so far recorded the highest milk yield per cow --- 6483 kg/cow in 1984. The U.S. is second with a yield of 5666 kg/cow in 1984 followed by Canada and Western Europe.

The demand side of the world dairy market over the last two decades has been characterized by (1) no growth, and in much of the developed world a decline, in per capita fluid milk consumption, and (2) slow-paced growth in per capita consumption of manufactured products. World per capita demand for butter and dry milk has remained stagnant due to a strong downtrend in the developed countries even though the trend in the developing and centrally planned countries has been up. Sizable subsidies in the EC and other Western European countries for butter and dry milk consumption helped sustain a moderately positive growth in total world consumption of these products. World

^{3/} Cow numbers and production per cow are for the developed countries only since the reliability of yield data available for the developing and centrally planned countries is difficult to assess.

cheese consumption has increased significantly due to the positive effects of income and population growth as well as to consumption subsidies in Western Europe. Total world consumption of butter, cheese, and dry milk increased at annual rates of 1.2 percent, 3.5 percent, and 3.4 percent, respectively, between 1966 and 1984. Because of the increasing concern about saturated fats in the diet, butter consumption has declined significantly in the developed world since 1970.

Disposal schemes that have been used in Western Europe and in the U.S. in the domestic as well as the international markets have been important factors in dry milk consumption. Like butter, dry milk has been sold to consumers at heavily subsidized prices in Western Europe since the late 1970s. The volume disposed of under the EC's subsidy program for feed utilization, for example, accounted for 90 percent of the EC's consumption and 43 percent of the world's consumption in 1984. The amount exported under food aid programs (i.e., subsidized exports) was also sizable.

TRADE IN DAIRY PRODUCTS

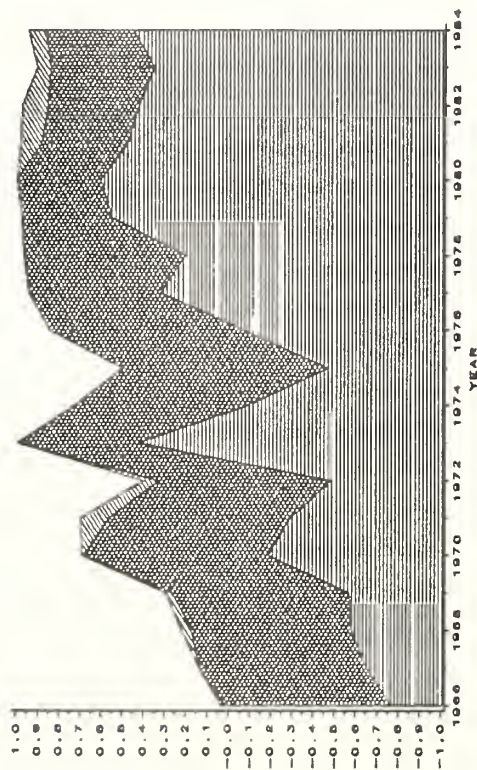
Trade in dairy products has characteristically been not only small relative to production or consumption but also concentrated in a small number of countries. Hence, small changes in exportable surpluses result in disproportionately large impacts on world prices. In fact, the world market has been extremely volatile because of changes in production or consumption that in large part were created by the protectionist policies of the major producing countries. Thus depressed world prices of dairy products caused by the resulting surpluses disrupted production of low-cost producing countries and changed competitive trade flows (see Figure 1).

Due to the divergent trends in consumption and production among countries, not only the volume but also the direction of trade in dairy products has changed considerably over the past two decades. Until the 1960s, international trade in dairy products occurred mostly among the developed countries, with Australia and New Zealand as the major exporters and Western Europe and Japan the major importers. Due to the protectionist policies of the EC and Western Europe and to a declining demand, milk production there outpaced demand so that the EC moved from a position of largest importer of dairy products in the 1960s to that of largest exporter of dairy products today. The other Western European countries and the U.S. also became net exporters in the 1980s.

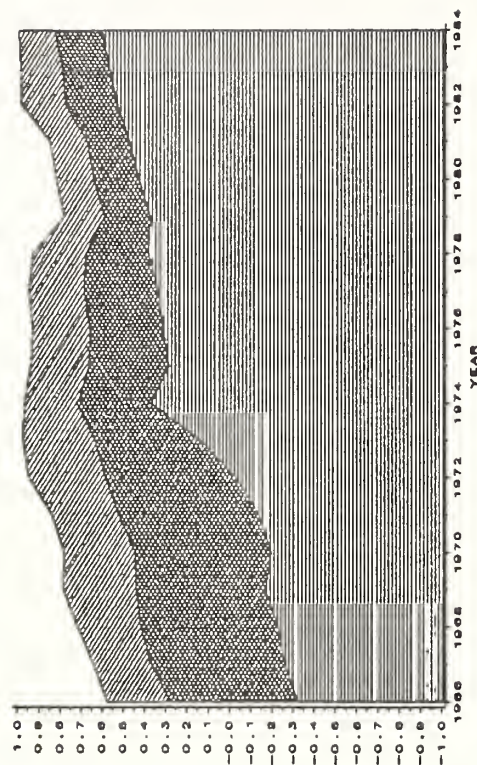
Trade policy of the EC has been more effective in promoting export sales than has that of the U.S. Due to the high costs of production in the EC and the U.S. relative to costs of production in New Zealand and Argentina, and due to high price support levels, neither EC nor U.S. dairy products are price competitive on the world market. In order to export their products, special measures are required. Export subsidies are the basic tool used in the EC, while foreign aid is the major tool used in the U.S. The U.S. disposes of its surpluses in countries with low effective demand whereas the EC tends to dump its surpluses onto the commercial market. The EC strategy, then, has had a strong effect on exports from other countries.

Figure 1. Market Shares in Dairy Products of the Major Producing Countries, 1966-84.

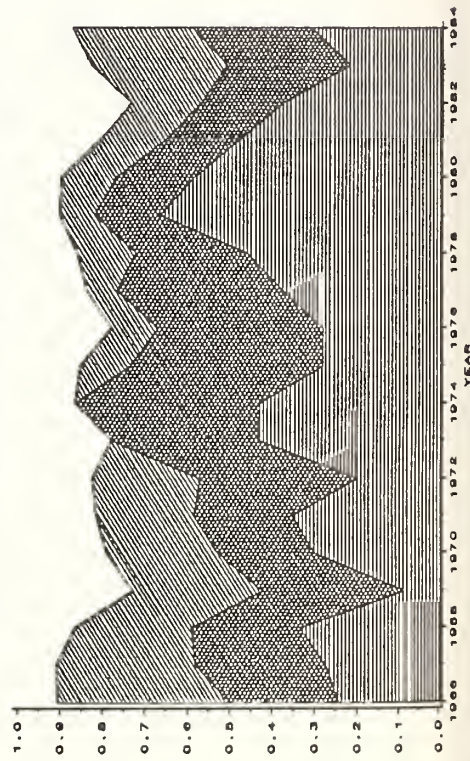
SHARES OF THE INTERNATIONAL BUTTER MARKET, 1966-1984.







SHARES OF THE INTERNATIONAL CHEESE MARKET, 1966-1984.



SHARES OF THE INTERNATIONAL DRY MILK MARKET, 1966-1984.



LEGEND

-  EC-10 Countries
-  Oceania
-  The United States
-  Other Western Europe

As the growth of surpluses in the developed world accelerated in the 1980s, imports by the developing countries also increased substantially due to increases in income, increases in population, and greatly depressed dairy product prices on the world market. Nevertheless, strong domestic demand encouraged these countries to expand their output as well so that imports have of late been dampened. Facing limited commercial outlets, the developed countries, particularly the EC and to a less extent the U.S., have resorted to subsidizing their exports. The combined effect of all these developments has been a shrinking of exports of dairy products from the low-cost producing countries of Oceania and South America.

The major buyers of butter are the developing countries (65 percent) and the centrally planned countries (35 percent). The developing countries are the major importers of cheese (60 percent) followed by the U.S. (21 percent) and Japan (14 percent). Among the developing countries, the Middle East is the largest buyer of cheese.

Trade in dry milk has more than doubled over the period 1966 to 1984. Almost one-quarter of the world's production is now traded in the international market. Until the 1960s, the U.S. was the largest exporter accounting for 40 percent of the total. Oceania and the EC shared equally in an additional 50 percent. In the 1980s, however, the EC accounted for 35 percent of dry milk exports while the U.S. and Oceania shared equally an additional 23 percent. The developing countries account for about 90 percent of dry milk imports.

RATES OF PROTECTION IN THE WORLD DAIRY MARKET

The obvious effect of protectionist policies is to raise domestic prices or, at least, to keep them higher than would be the case in a perfectly competitive, free trade world. This, in turn, leads to overproduction in the protectionist countries and to reduced world trade and/or subsidized exports. Estimates of "nominal protection" coefficients in dairy for several countries of the world are shown in Table 1. "Nominal protection" coefficients are estimated as the ratio of domestic price to world market price at the respective country's border. In the case of dairy, the border price is the New Zealand price plus cost of transportation from New Zealand to the country of concern. The New Zealand price is used here since the cost of producing^{4/} milk in New Zealand is estimated to be the lowest of any country in the world^{5/}.

Despite^{5/} the fact that "nominal protection" coefficients have serious limitations, some general conclusions are apparent. It seems rather clear, for

^{4/}See Austin, Lynn A. "Costs of Milk Production in Seven Major Milk Protein Exporting Countries and the U.S.". USDA/ERS. ERS Staff Report No. AGES810922. September 1981.

^{5/}See Hallberg and Cho, op. cit., for a discussion of these limitations.

Table 1-Self-Sufficiency Ratios and Nominal Protection Coefficients in Dairy for Selected Countries.

	1980-82 Self-Sufficiency Ratios ^{a/}	1980-82 Nominal Protection Coefficients ^{b/}
Industrial Market Economies		
Australia	124	1.30
Canada	111	1.95
EC-10	113	1.75
EFTA- ^{c/}	111	2.40
Japan	84	2.90
New Zealand	219	1.00
Spain and Portugal	95	1.80
U.S.	103	2.00
Centrally Planned Economies		
USSR	98	2.60
Other East European	101	2.60
Selected Developing Economies		
Egypt	75	2.50
Nigeria	32	3.00
South Africa	98	2.30
China	95	2.80
India	99	1.80
Korea	98	3.00
Taiwan	93	3.00
Thailand	6	1.80
Argentina	100	1.00
Brazil	99	1.60
Mexico	90	2.80

a/ Ratio of local production to local consumption times 100.

b, Ratio of local production to local consumption times 100.
c, Estimated as the ratio of local producer price to border price.

c/ European Free Trade Association including Austria, Iceland, Norway, Sweden, and Switzerland.

SOURCE: Tyers, Rodney and Kym Anderson. "Distortions in World Food Markets: A Quantitative Assessment".. Unpublished background paper for the World Bank. January 1986.

Table 2-Impact of Trade Liberalization in the World Dairy Industry.

Country	Change in Domestic Producer Price	Self-Sufficiency Ratios	
		Reference Scenario	Free-Trade Scenario
(%) (000 tonnes) (%)			
<u>Industrial Market Economies</u>			
Australia	51	118	137
Canada	1	111	112
EC-10	12	114	125
EFTA-5 ^a	-18	125	108
Japan	-32	83	45
New Zealand	96	218	374
Spain and Portugal	9	95	105
U.S.	-2	103	102
<u>Centrally Planned Economies</u>			
USSR	-25	99	92
Other East European	-25	104	101
<u>Selected Developing Economies</u>			
Egypt	-22	68	46
Nigeria	-35	32	17
South Africa	-15	95	74
China	-30	79	29
India	9	96	107
Korea	-35	100	45
Taiwan	-51	81	26
Thailand	9	5	6
Argentina	96	100	244
Brazil	23	95	125
Mexico	-30	89	56

^a/ European Free Trade Association.

SOURCE: (See Table 1).

example, that in most all countries with a milk self-sufficiency ratio of 110 or less, dairy farmers receive generous support from their government. Japanese, Common Market, U.S. and Scandinavian dairy farmers are more highly protected than are farmers in those countries that normally rely on exports to market their dairy produce. Some of the developing countries also protect their local dairy industry in an effort to develop a viable industry and to reduce their dependence on other countries for a source of dairy products.

CONSEQUENCES OF WORLD TRADE LIBERIALIZATION IN DAIRY

In a recent study commissioned by the World Bank, Tyers and Anderson used a multi-commodity (wheat, rice, coarse grains, meats, dairy, and sugar) simulation model of world agriculture to project expected 1985 consequences of free trade in dairy on 30 countries and country groups. The first projection assumed 1980-82 domestic-to-border price ratios would remain unchanged to 1985. This projection thus assumed a continuation of 1980-82 protectionist dairy policies everywhere and was used as the basis of comparison for subsequent simulations. A second projection assumed removal of all forms of dairy market intervention --- domestically as well as across borders --- and thus that everywhere free market prices in dairy would prevail. In the latter projection, 1980-82 domestic-to-border price ratios in all non-dairy markets were assumed to prevail through 1985.

In both of these simulations it was also assumed that the border price for milk in every country is the New Zealand producer price for milk plus an allowance for processing milk into exportable form as well as an allowance for transportation from New Zealand to the border. All milk product quantities were converted into fluid milk equivalents so all dairy products could be treated, for analytical purposes, as a single commodity.

The essential results of this analysis are shown in Table 2. The study found that under removal of all protectionist policies for dairy, world prices for milk and exports of dairy products would nearly double!

World trade was projected to increase by 27 million tons of milk equivalent. Imports in Japan, the USSR, China, Mexico, and Korea-Taiwan would increase substantially. Exports from New Zealand, Australia, Argentina, Brazil, India and the U.S. would also increase substantially. EFTA's share of world exports would fall from 13 to 2 percent. Argentina and Brazil would shift from a position of net importer to a position of net exporter accounting for 13 percent of world exports. Exports from the EC would also increase slightly although her share of world exports would fall from 54 percent in the reference scenario to 47 percent under trade liberalization. The U.S.'s share of world exports would increase from 8 percent to 14 percent as she captures some of the market freed up via trade liberalization. Argentina and Brazil would shift from a position of net importer to that of net exporter accounting for 13 percent of world exports.

Because the world price of dairy products is projected to be so high under trade liberalization, milk prices in Canada, the U.S., and several of the developing countries would change very little. Milk prices in Australia and South America would increase significantly but not by as much as in the low-cost countries of New Zealand and Argentina. In the EC, milk prices would also increase slightly in spite of the current high level of protection in the EC. Milk prices in Scandinavia (actually in EFTA-5) would drop by 18 percent, and in Japan by over 30 percent. Significant price decreases would also occur in the centrally planned economies, in Egypt and Nigeria, in China, in Korea and Taiwan, and in Mexico. In general, global liberalization in dairy would raise the price to producers in the major dairy countries with relatively low rates of protection currently, while for several with relatively high rates of protection it would have little price impact. The major exceptions would be in Japan and EFTA-5.

The overall welfare gains estimated by Tyers and Anderson to result from removal of dairy intervention policies everywhere amount to about \$7 per capita. As in every such case there would be some gainers and some losers. By and large all the major dairy producing countries in North America, Europe, Australia-New Zealand, and South America would be net gainers. Many countries in the developing world would be losers. New Zealand stands to gain the most from trade liberalization in dairy --- an estimated \$195 per capita --- as both the world price and her exports increase. The next largest gainer would be EFTA-5 (\$25 per capita) as consumer prices in this area fall. Australia and Argentina also stand to gain significantly. Strangely enough the remaining countries with relatively high rates of protection --- EC-10, U.S., and Canada --- would also gain somewhat primarily from increased exports. In the U.S., for example, the increase in world price causes exports to increase because of the now (relatively) lower U.S. domestic price. Thus while consumers in the U.S. would be generally unaffected, U.S. producers would be better off and in total gains in the U.S. more than offset any losses. The big losers would be the Caribbean and African countries, and to a somewhat less degree, Asia.

FURTHER CONSIDERATIONS

It is inevitable that, compared to the status quo, there are both gainers and losers from free trade. The distribution of gains and losses from free trade in dairy depicted here would appear to most people to be rather inequitable --- the low income countries tend to be the big losers while most of the high income countries end up being gainers.

It must be borne in mind, however, that the analysis on which these results are based tells only part of the story. That is, rates of protection and thus prices, production, and trade in all other agricultural markets were assumed to remain unchanged at their 1980-82 levels. Clearly these variables are not likely to remain unchanged if free trade were to occur in dairy. In particular it is to be expected that in those countries where milk production is projected to increase, resources would be bid away from the production of other agricultural products some of which are produced in the countries identified above as losers. Hence the losses sustained in a given country as a

result of free trade in dairy can be expected to be compensated for^{6/} (and indeed more than compensated for) by the gains from non-dairy enterprises.

Furthermore if trade liberalization in all of agriculture were to occur, we should expect somewhat less drastic milk price and trade changes to occur as substitutions in production take place and as lower feed prices in the industrialized countries (notably in Western Europe) lower the cost of milk production in those countries. Indeed it is likely that world prices for milk would fall below current U.S. price levels so that U.S. milk production would fall and the U.S. would become a net importer rather than a net exporter of dairy products! That is, the U.S. would no longer be able to compete in the international market with the low cost milk producing nations.

Two other factors that merit attention here are changes in exchange rates since the study was done and technology. The U.S. dollar has fallen by nearly 50 percent against the major currencies of the world since 1985 --- the projection date of the study cited above. However, the U.S. dollar has remained stable or changed relatively little against the currencies of the countries to whom we do export or are likely to export dairy products. Thus when exchange rate differences are taken into account, the principal results of the Tyers and Anderson study are expected to change little if at all.

Technological developments that might be expected to shift the supply curves to the right, however, are somewhat more complicated to unravel. One such development is the protein hormone, bovine somatotropin. If this hormone does in fact become available and is fully adopted by all the milk producing countries of the world, the results are fairly predictable. World prices will fall as milk becomes cheaper to produce everywhere, and world trade will also fall as all countries move closer to self-sufficiency. In such a situation we would expect each country's share of the smaller world trade to change only slightly from their shares before adoption. If, however, adoption rates and/or output responses to the hormone differ among countries, prices and trade patterns could change markedly. For example, if the U.S. is the only country adopting the hormone, the U.S. would gain substantially at the expense of the other major producing countries since her price would fall relative to the world price making her more competitive in the international market than she was before adoption of the cost reducing technology.

PROSPECTS FOR INCREASED U.S. EXPORTS OF DAIRY PRODUCTS

Many individuals are looking hopefully to the foreign market as a means of increasing sales of U.S. dairy products. In March of this year the USDA introduced a Dairy Export Incentive Program designed to promote exports of U.S. dairy products via in-kind subsidies from CCC stocks for export sales of

^{6/}See World Bank. World Development Report, 1986. Oxford University Press. 1986 for further elaboration on this point.

targeted products from commercial sources. The targeted products include butter, butteroil, anhydrous milkfat, nonfat dry milk, whole milk powder, and cheddar and bulk American cheese for processing.

The Dairy Export Incentive Program will certainly enable U.S. processors of dairy products to compete in the international market. It is not, however, a long-term solution to the basic problems existing in this industry. Over the long-term and with global liberalization in all of agriculture, the U.S. simply cannot compete on the international market with the low-cost milk producing nations like New Zealand and Argentina without subsidizing exports. Further, to continue to subsidize these exports would mean not only social losses in the U.S. (through the continued employment of resources in milk production in the absence of a market for this milk) but also losses imposed on countries that have a greater comparative advantage for milk production than does the U.S. Subsidizing exports might be a viable stopgap measure. Unfortunately there is little return to U.S. citizens since the subsidy involves substantial direct transfers to foreign buyers.

If, on the other hand, price supports and trade barriers in dairy are removed everywhere while current levels of protectionism remain in the rest of agriculture, the situation is quite different. In this case world milk prices would remain high enough so that U.S. prices would not necessarily fall and the U.S. could expect to export her surpluses of dairy products on the foreign market without subsidies.

CONCLUSIONS

If current trends continue, the prospects are for continued surpluses of milk and dairy products in the world. The ability of many countries less well endowed with pasture to feed high levels of concentrates per dairy animal enables them to expand milk production under the price shelter of protectionist policies. In the developing and centrally planned countries and in Japan, milk production can be expected to continue to expand in line with the growth in demand for milk and dairy products. In the major producing regions of the developed world --- i.e., in the U.S. and Western Europe --- production expansion and budgetary stress promised by continuing protectionist measures will likely result in a reinforcement of current production control measures.

The comparative advantage in the world dairy market may change in the future as the stock of technology and capital change, and if an abundant supply of low-priced animal feed is maintained. If this is the case the comparative advantage traditionally held by Oceania may diminish and trade flows could be significantly altered from those depicted here. A more significant factor, however, is likely to be whether or not protectionist policies around the world are maintained.

Currently there is a great deal of concern among the major developed countries about the mounting costs of protecting the local dairy industries. Expenditures on dairy price supports alone in the EC amounted to 5,442 million ECU (49.5 ECU per ton of milk produced) in 1984 and in the U.S. \$1,598 million

(\$26.0 per ton of milk produced). Expenditures associated with supporting the dairy industry in Austria, Finland, Norway, Sweden, and Switzerland have also been exceedingly high. There is no indication that this situation will improve until these countries take action to curb the production growth of recent years. For many the strongest hope for reduced levels of protection is that society will cease to be willing to pay the high cost required to support this protection.

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U.S. AND WORLD COTTON OUTLOOK

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The mid-1980's have proved to be one of the most dynamic transition periods in the history of world cotton production, consumption, and trade. At the start of the 1986/87 cotton marketing year, world stocks had reached a record 46 million bales, representing over 7 month's use, and world cotton prices had fallen below 37 cents per pound, C.I.F. Northern Europe. In the U.S., cotton stocks had risen to a record 9.3 million bales and average spot prices had dropped below 27 cents. At the time, most analysts thought it would take several years to bring world supplies back in line with demand. Instead, it has taken only two seasons.

Several factors have contributed to the dramatic change in the situation and outlook for cotton. Some of the major ones include:

- o Significantly reduced 1986-crop production in the U.S., USSR, China, India and Australia. Also, 1987-crop shortfalls in the Soviet Union and India are expected.
- o Revised Soviet Union cotton production estimates. Soviet production was lowered an average of nearly 10 percent in the crop years 1983 through 1986 and stocks reduced almost 30 percent at the end of the 1986/87 season.
- o Revised China consumption estimates. China's domestic use was raised by nearly 12 percent for the marketing years 1984 through 1986.
- o Strong worldwide cotton demand. Because of lower cotton prices and a strong consumer preference for natural fibers, world consumption reached a record of 83.1 million bales last season.
- o Record cotton imports. World trade reached a record 25.7 million bales last season.

These changes have led to the current improvement in the world cotton outlook and situation.

Outlook for 1987/88

World

World cotton prices generally moved higher last season, reflecting the strong demand and the tightening of stocks. The return to more normal stock levels and significantly higher prices led to an expansion of planted area and production this season. World cotton production in 1987/88 is expected to be near 77.1 million bales, compared to 69.6 million last season (Table 1). Foreign production is expected to increase almost 6 percent to 63.1 million bales.

Larger foreign production is primarily the result of almost 2.6 million additional acres of planted area this year. Initially, yields were expected to recover from substantial weather-related reductions in 1986/87. While yields have recovered among some Northern Hemisphere producers, others continue to have problems this season. Pakistan is expecting a crop of about 6 million bales, near last year's record crop. Also, China's production is projected at 18 million bales, 10 percent above last season's reduced crop, but below expected consumption. However, the Soviet Union and India continue to be plagued with weather problems. The Soviet crop, estimated at 11.0 million bales, would represent their lowest production in the 1980's. Indian production is forecast at 7.7 million bales, nearly 700,000 bales below their 1985 crop.

Southern Hemisphere producers are also expected to increase acreage this season. Southern Hemisphere producers, in general, did not plant until September or later. Strong prices and expanding market opportunities likely mean that countries such as Australia, Brazil, and Argentina will increase area to the greatest extent possible.

Global cotton consumption is projected at 82.4 million bales, down fractionally from last year's record of 83.1 million. Foreign demand may total 74.6 million bales. The forces that boosted cotton consumption by 18 percent in 1986/87 are not as widespread this year. The low-price factor in consumption growth has been removed for 1987/88 and higher prices may discourage growth in cotton usage. However, cotton prices have recently realigned with manmade fiber prices. Polyester prices have increased in several countries and in a few cases surpassed cotton prices.

Cotton consumption among major importing countries continues strong in 1987/88 and may equal last season's use of 18.4 million bales. As a result, global trade is expected to fall only 5 percent or 1.4 million bales in 1987/88, but remain the second highest historically, just under last season's record of 25.7 million. The United States is expected to capture almost 30 percent of world trade, followed by Pakistan with 13

percent, the Soviet Union with 11 percent, China with 7 percent, and Australia with 5 percent.

With consumption still substantially above production, ending stocks are expected to tighten further in 1987/88, falling from 31.6 million bales to 26.1 million. Stocks are projected to decline over 3 million bales in China and almost 1 million in the United States. The global stocks-to-use ratio is expected to drop below 32 percent, the lowest since 1980/81.

United States

In the United States, a recovery in yields and production and continued strong demand highlight the 1987/88 cotton outlook. The crop of almost 14 million bales is up 4.2 million from last season, reflecting slightly larger acreage and a record average yield of 671 pounds per harvested acre. The 1987-crop is the largest since 1981 when 15.6 million bales were produced.

Cotton mill use during 1986/87 totaled 7.5 million bales, 15 percent more than the previous season. Monthly consumption continues at levels unmatched since the early 1970's. During the last quarter of the 1986/87 marketing year, the seasonally adjusted consumption rate averaged 7.9 million bales. The seasonally adjusted annual use rates for August, September, and October were 7.9, 8.1, and 7.9 million bales, respectively. Similarly, cotton's share of total fibers used on the cotton system continues to increase, accounting for 69 percent of total fibers consumed in October. Based on the strong early season usage rates, the continued consumer preference for natural fibers, and the recent realignment in relative fibers prices, mill use may increase to 7.8 million bales in 1987/88.

Domestic mill use is expected to increase despite rising imports of foreign textiles. During the first 8 months of 1987, imports totaled 3.3 million bale-equivalents, almost 21 percent higher than the same period in 1986. However, domestic mill use has been supported by increasing U.S. textile exports. In January-August, 1987, 410,000 bale-equivalents had been shipped, compared to 359,000 during the same time period in 1986, a 14-percent increase. In spite of the gains in textile exports, the cotton textile trade deficit could increase to 4.3 million bale-equivalents and represent nearly 56 percent of U.S. cotton mill consumption in 1987.

Last season, U.S. cotton exports rebounded to 6.7 million bales and further increases are expected this season. The current estimate for 1987/88 exports is 7.2 million bales. Competitive U.S. prices, a fall in the dollar, and crop shortfalls in some major producing countries have increased the potential for U.S. exports this season. The primary markets for U.S. cotton have been Japan, South Korea, and Taiwan. Shipments this season to these major textile-producing countries may

account for over 54 percent of total U.S. exports, down slightly from last season, but above the average shipments of 1980-84.

Although the size of the 1987 crop is significantly larger than earlier expected, demand prospects for U.S. cotton have also increased. As a result, ending stocks may decline almost 1 million bales to 4.1 million, near the desired carryover level specified in the Food Security Act of 1985.

Outlook for 1988/89

World

Although many uncertainties surround the world outlook and situation for cotton in 1988/89, current economic conditions suggest an expansion of world cotton area and production next season. Although yields are highly variable, assuming trend yields, world production could range from 80-85 million bales. Significantly larger production in the Soviet Union, China, and India could occur if yields return to more normal levels. Other major producers which are likely to expand production include Australia, Pakistan, and some of the Central and South American countries.

If growth in population and income continue to follow recent trends and cotton prices remain in line with manmade fibers, world cotton consumption may exceed 80 million bales for the third consecutive year. However, higher cotton prices this season are likely to limit the growth in world consumption rates in 1988/89. Barring a prolonged slowdown in economic activity and more restrictive trade agreements from textile importers, world cotton consumption could remain slightly below last season's record level.

World cotton trade in 1988/89 will depend on the availabilities of supplies in exporting countries and the level of consumption in importing countries. Historically, imports account for nearly 30 percent of global use. Global imports could total 22-24 million bales if consumption remains strong. The United States, Pakistan, and other foreign countries will continue to compete for these markets.

So, 1988/89 global cotton production is likely to increase above this season while consumption may remain near or slightly below 1987/88 projected levels. As a result, ending stocks might increase slightly, but should remain well below the burdensome high level of recent years.

United States

The early-season outlook for U.S. cotton in 1988/89 points to disappearance and production remaining about in balance. This is based on upland cotton program provisions which will again limit planted

acreage and continue to encourage use through competitive cotton prices in domestic and foreign markets.

The Secretary of Agriculture has announced the major provisions of the 1988 upland cotton program. The 1988 program will not be significantly altered from the current one. However, producers will be required to reduce their cotton acreage by 12.5 percent of their base (25 percent was required in 1987) to be eligible for price support loans and other program benefits.

Specifics for the 1988-crop program include a target price of 77 cents per pound with a loan level of 51.8 cents for base-quality cotton. If the adjusted world price falls below the loan level, the Plan B marketing loan program will be put into effect. Plan B allows producers to repay price support loans at the lower of the loan rate or the adjusted world price. If the adjusted world price is above the loan rate, 1988-crop cotton may be redeemed with cash at the loan level, plus accrued interest, warehouse charges, and any reconcentration charges previously paid by the CCC.

Program enrollment in 1988/89 will likely remain high, but may drop below this year's 89 percent. If participation declines to between 75 to 85 percent, planted acreage could increase to 11-13 million acres, with 2-3 million acres planted outside the program. Depending on yields, the 1988 crop could range from 12-15 million bales. With trend yields, the crop could approach 14 million bales.

With competitive U.S. cotton prices in domestic and foreign markets, demand prospects remain bright next season. Although domestic mill use may not match this season's expected use of 7.8 million bales, consumption could top 7 million bales. Several factors could lead to slightly lower consumption next season. Some of these include: uncertainty about the economy's performance, the possibility of a downturn in the fashion trend toward heavyweight denim, the continuing poor market for corduroy, the continuing impact of textile imports, and the cyclical nature of the textile industry.

U.S. cotton exports are likely to fall from this season's level because of increased foreign supplies. Shipments could drop back to more historical levels and range between 6 and 7 million bales. This export level would allow the U.S. to maintain its current market share of about 30 percent. Thus, expected disappearance could about match expected production in the 1988/89 marketing year, with ending stocks remaining near the desired 4-million-bale level.

Outlook to 1990

Longer term prospects for global cotton point to further increases in both production and consumption. If yields continue to increase at an annual rate of 2-3 percent, world production could reach 83 to 88 million

bales by 1990. However, if the recent upward trend in consumption can be maintained for the next few years, use could total about 85 million bales, near expected production.

This scenario of world production approximating or perhaps exceeding world consumption during the next few years implies stocks are likely to increase. However, stock buildups may not be significant and assuming larger consumption over the period, the stocks-to-use ratio may not increase significantly.

In the U.S., cotton production will be influenced by the Food Security Act of 1985. To maintain stocks at the desired level near 4 million bales, an acreage reduction program will likely continue to be needed to keep supplies in balance with demand.

If world consumption continues higher and imports represent approximately 30 percent of use, then U.S. cotton exports will likely trend upward over the period. The U.S. should be able to maintain its current market share of about 30 percent. This points to U.S. exports in the range of 6.5 to 7.5 million bales throughout the period. Continuing competition from domestic manmade fibers and textile imports will probably restrict growth in U.S. mill use. Mill use could fall in a range of 7.0 to 7.5 million bales annually. Therefore, to maintain the desired stock level, a 13-15 million bale crop would be needed. Assuming trend yields, between 10 to 20 percent of the U.S. cotton base would likely need to be idled to accomplish this goal.

In summary, the U.S. and world cotton outlook through 1990 projects supplies and demand more in balance than in the past few years. World consumption and production could range between 80 to 90 million bales with carryover stocks of 25 to 30 million bales.

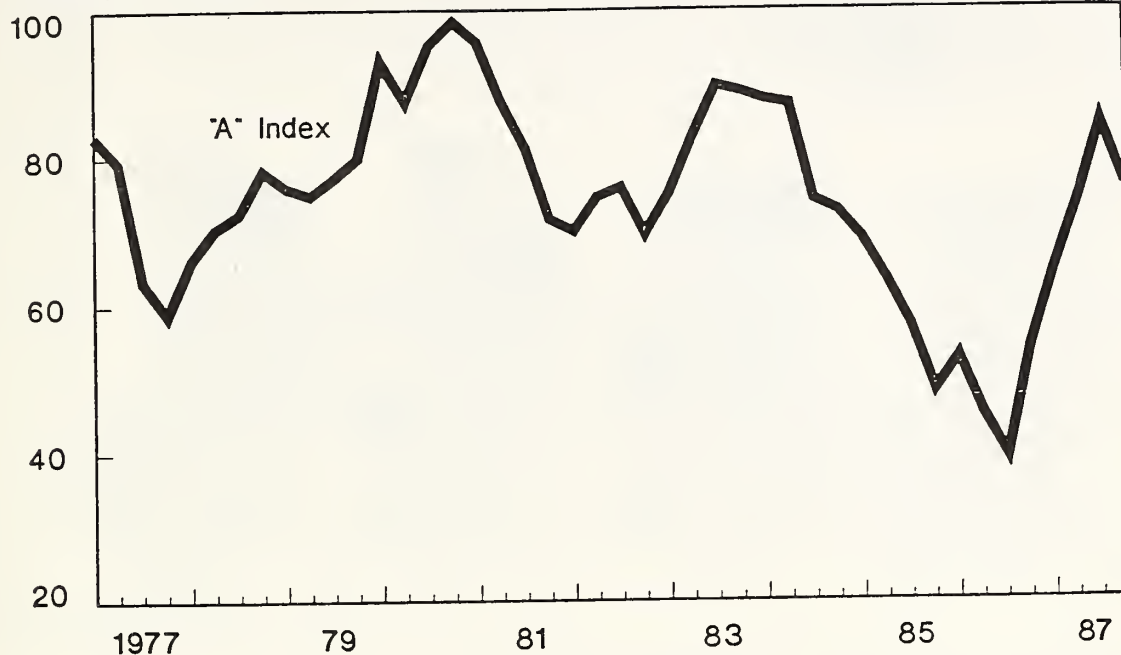
Table 1--World Cotton Supply and Distribution, 1981/82-1987/88

	1981/82	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88	1988/89
<u>Beginning stocks</u>								
World	21.2	25.2	25.1	24.1	42.3	45.5	31.6	25.1
U.S.	2.7	6.6	7.9	2.8	4.1	9.3	5.0	4.1
Foreign	18.5	18.6	17.1	21.3	38.2	36.2	26.6	22.0
USSR	2.6	2.5	1.9	1.4	2.2	2.3	1.8	1.3
PRC	2.4	1.9	3.0	7.8	19.4	16.1	8.2	5.1
Pakistan	.2	.2	.2	.1	1.0	1.1	1.1	.7
Other Exports	7.6	8.2	65.5	6.5	10.0	10.8	8.4	8.2
Importers	5.7	5.8	5.5	5.5	5.5	5.6	7.1	6.7
<u>Production</u>								
World	71.2	68.1	66.6	88.7	79.1	69.5	77.1	
U.S.	15.6	12.0	7.8	13.0	13.4	9.7	13.9	
Foreign	55.5	56.1	58.9	75.7	65.6	59.8	63.1	
USSR	13.3	11.9	11.1	12.4	12.3	11.7	11.0	
PRC	13.6	16.5	21.3	28.7	19.0	18.4	18.0	
Pakistan	3.5	3.8	2.2	4.6	5.7	5.5	6.1	
Other Exports	22.9	22.1	22.4	27.9	26.3	24.3	25.2	
Importers	2.2	1.8	1.9	2.1	2.4	2.5	2.8	
<u>Imports</u>								
World/Foreign	20.0	19.8	20.7	20.7	21.5	25.6	24.4	
USSR	.1	.5	.8	.8	.6	.6	.8	
PRC	2.1	1.1	.3	.2	1/	1/	.2	
Pakistan	1/	1/	.3	1/	1/	1/	1/	
Other Exports	.2	.1	.2	.3	.8	.9	1.1	
Importers	17.6	18.1	19.1	19.4	19.9	22.9	22.3	
<u>Consumption</u>								
World	66.1	68.2	68.7	70.4	76.7	83.1	82.4	
U.S.	5.3	5.5	5.9	5.5	6.4	7.5	7.8	
Foreign	60.9	62.7	62.8	64.8	70.3	75.6	74.6	
USSR	9.2	9.2	9.2	9.4	9.6	9.6	9.6	
PRC	16.2	16.4	16.0	16.0	19.5	21.0	19.5	
Pakistan	2.2	2.4	2.0	2.3	2.5	2.8	3.1	
Other Exports	14.2	15.0	15.2	16.3	17.3	18.2	18.1	
Importers	19.7	19.7	20.4	20.8	21.4	24.0	24.3	
<u>Exports</u>								
World	20.3	19.5	19.2	20.5	20.5	25.7	24.4	
U.S.	6.6	5.2	6.8	6.2	2.0	6.7	7.2	
Foreign	13.7	14.2	12.4	14.3	18.5	19.0	17.2	
USSR	4.3	3.9	3.2	3.0	3.2	3.1	2.8	
PRC	0	.1	.8	1.3	2.8	3.2	1.8	
Pakistan	1.1	1.3	.4	1.3	3.1	2.9	3.2	
Other Exports	7.8	8.5	7.3	8.1	8.5	8.6	8.4	
Importers	.6	.4	.7	.6	.9	1.2	1.0	

1/ Less than 50,000 bales.

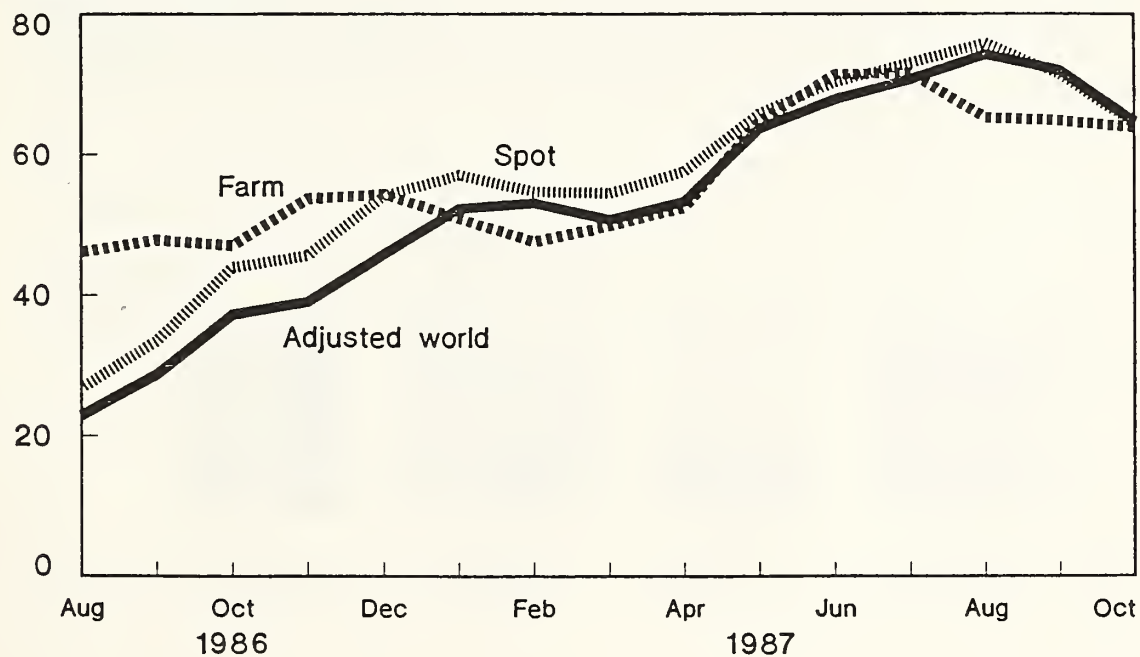
World Cotton Prices

Cents per pound



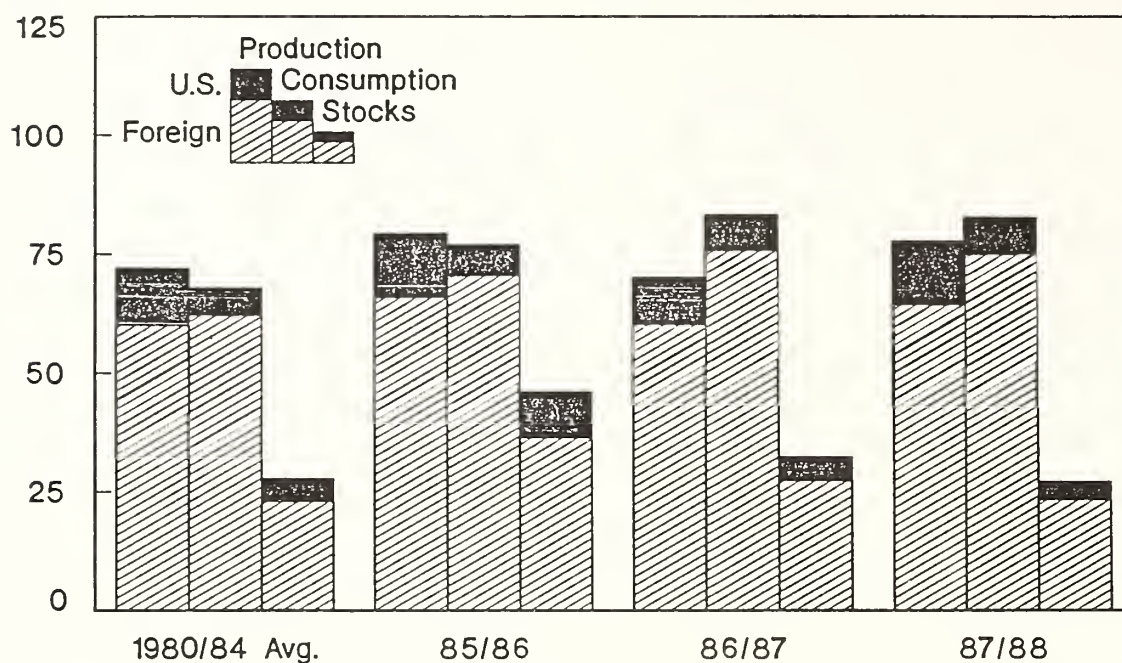
U.S. Cotton Prices

Cents per pound

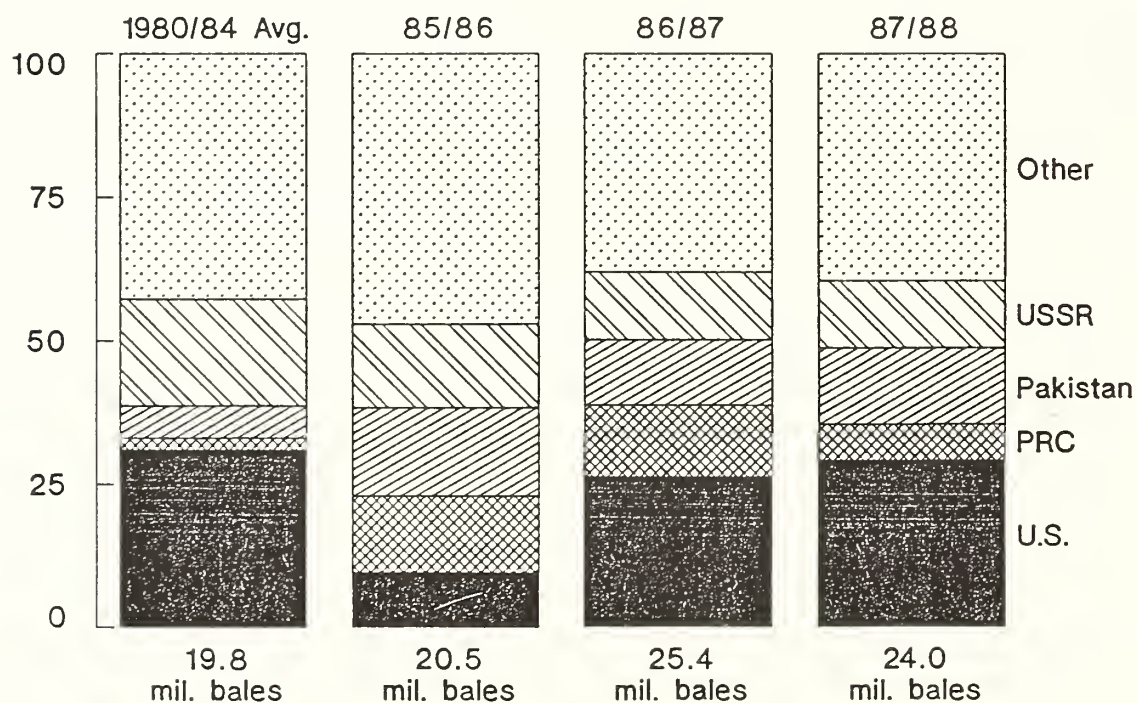


World Cotton Production, Consumption, and Stocks

Million bales

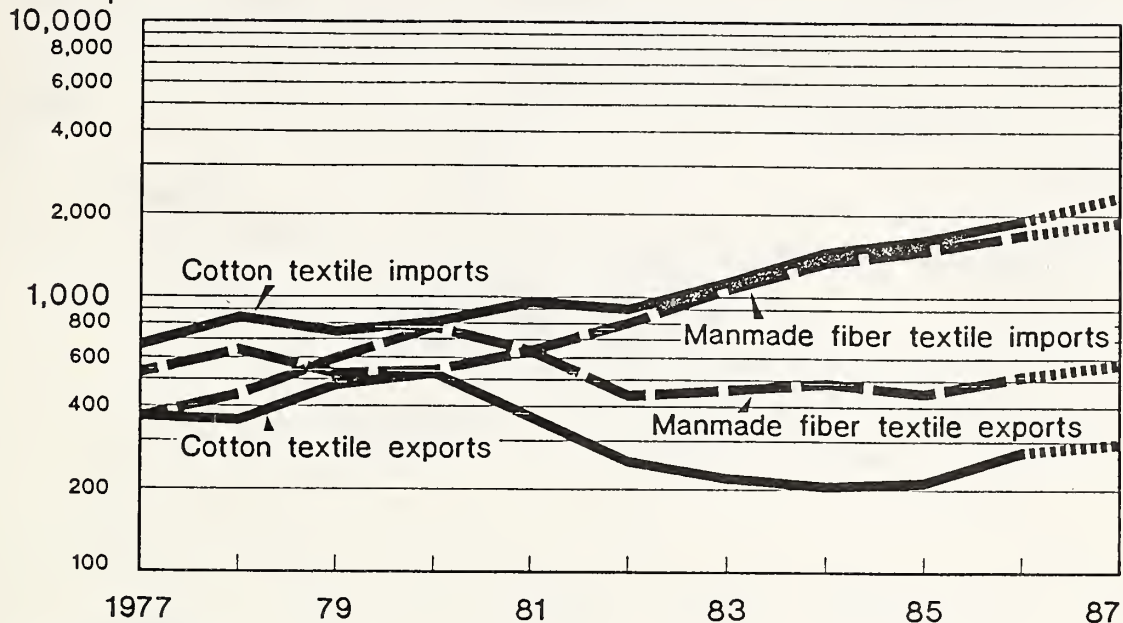


World Cotton Trade and Export Shares



Cotton and Manmade Fiber Textile Imports and Exports

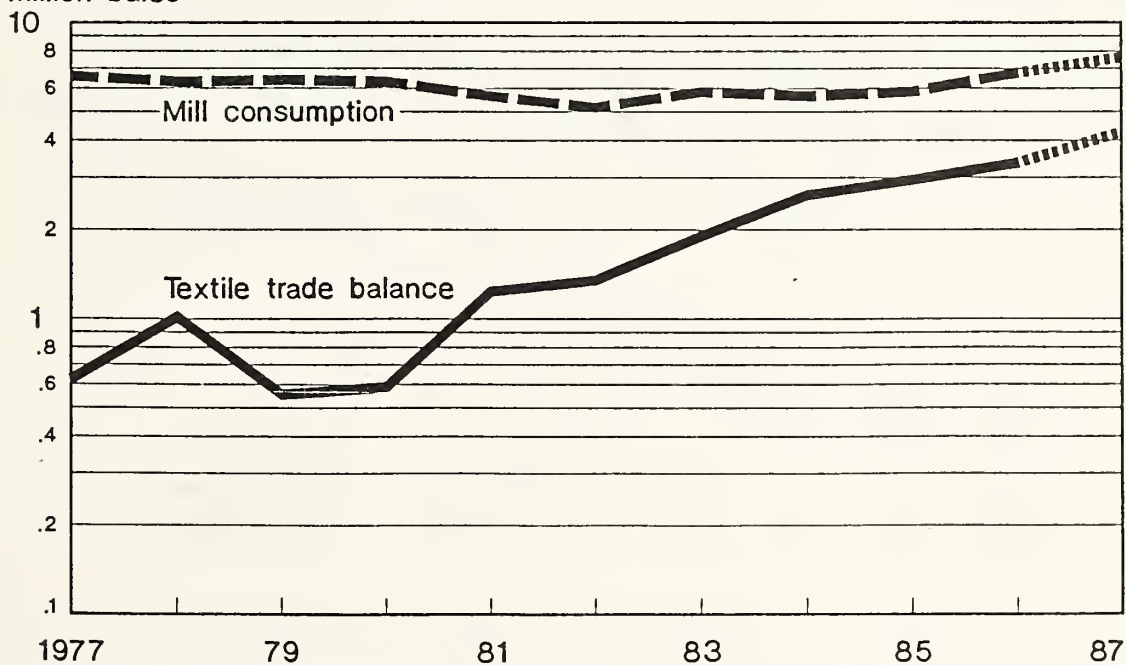
Million pounds*



* Raw fiber equivalent.

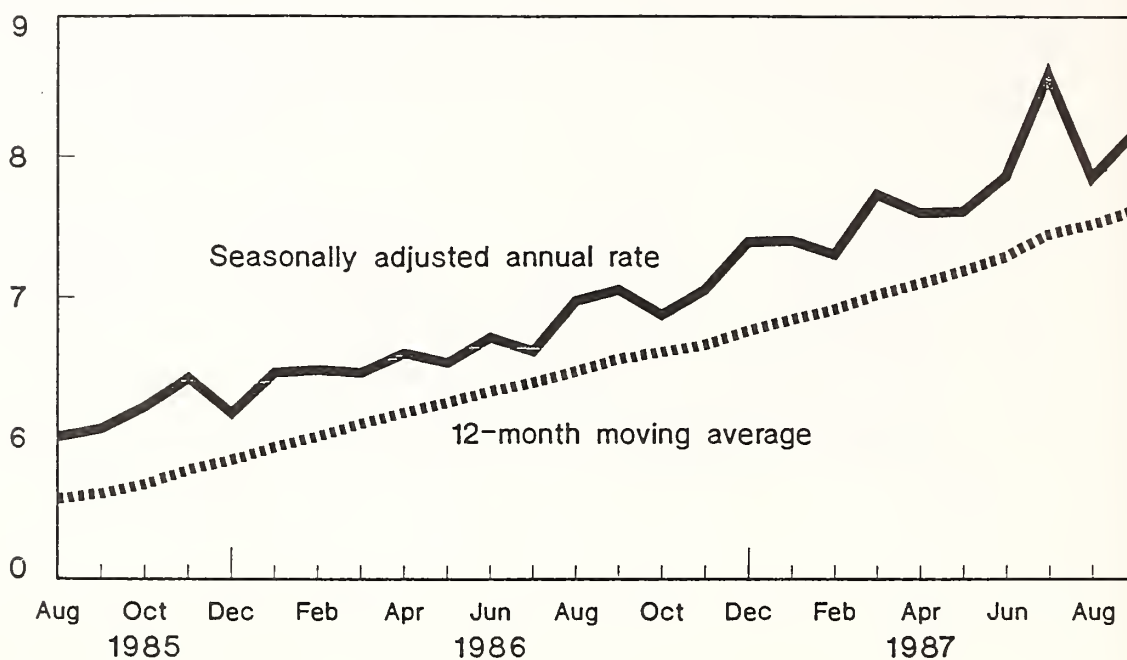
U.S. Cotton Mill Consumption and Textile Trade Balance

Million bales



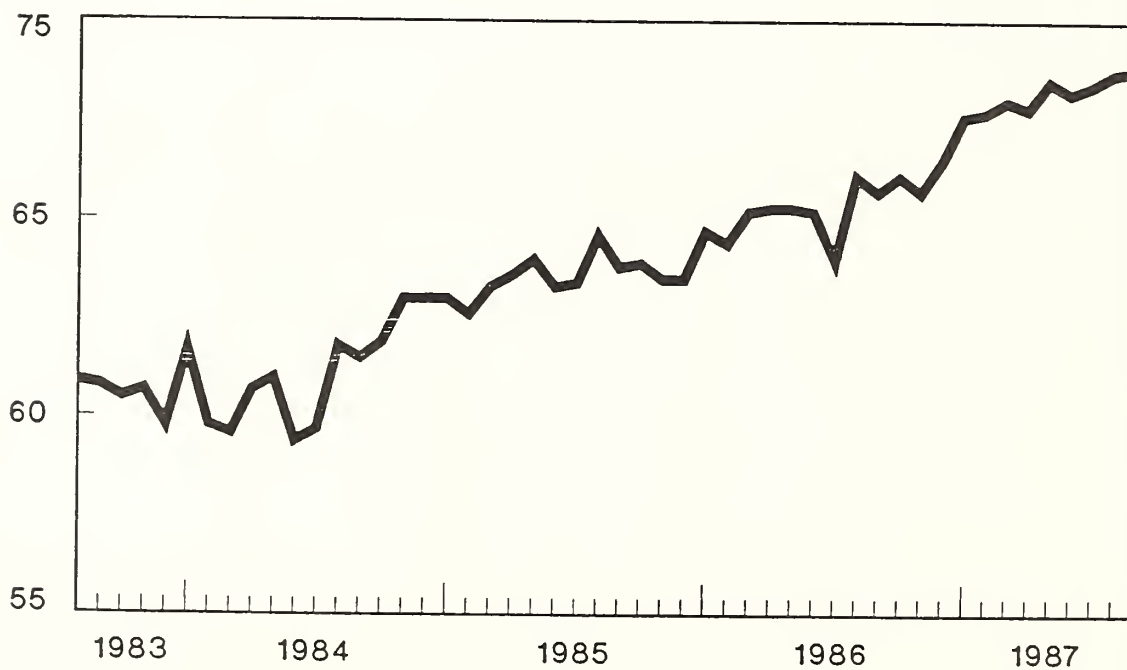
U.S. Mill Consumption

Million bales



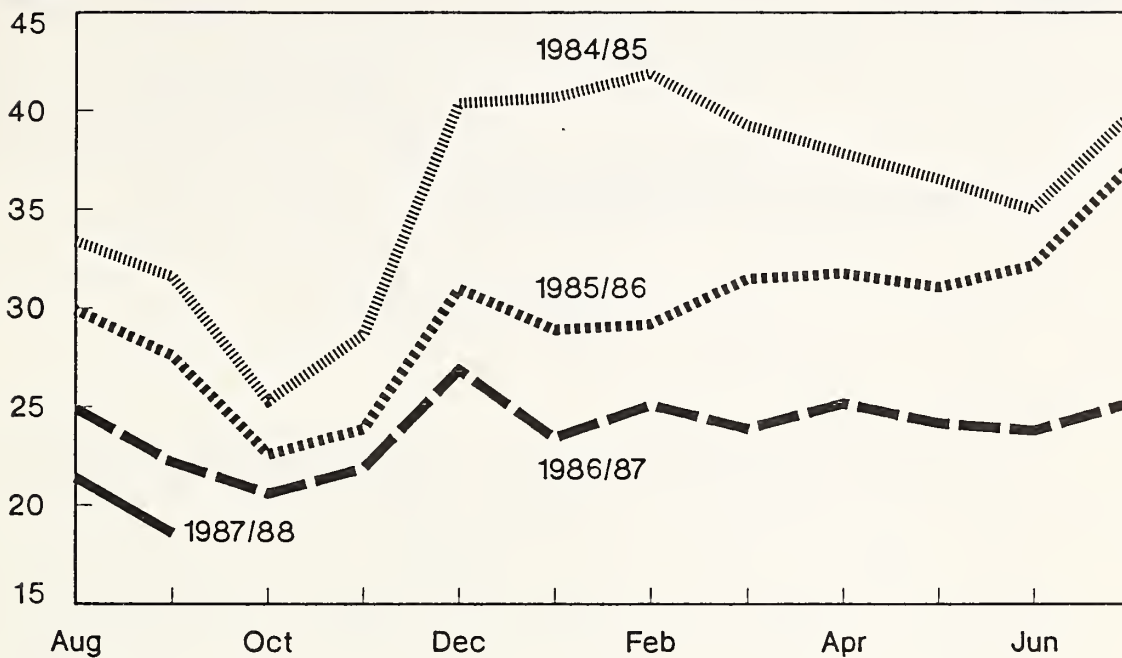
Cotton's Share of Fibers on Cotton System

Percent



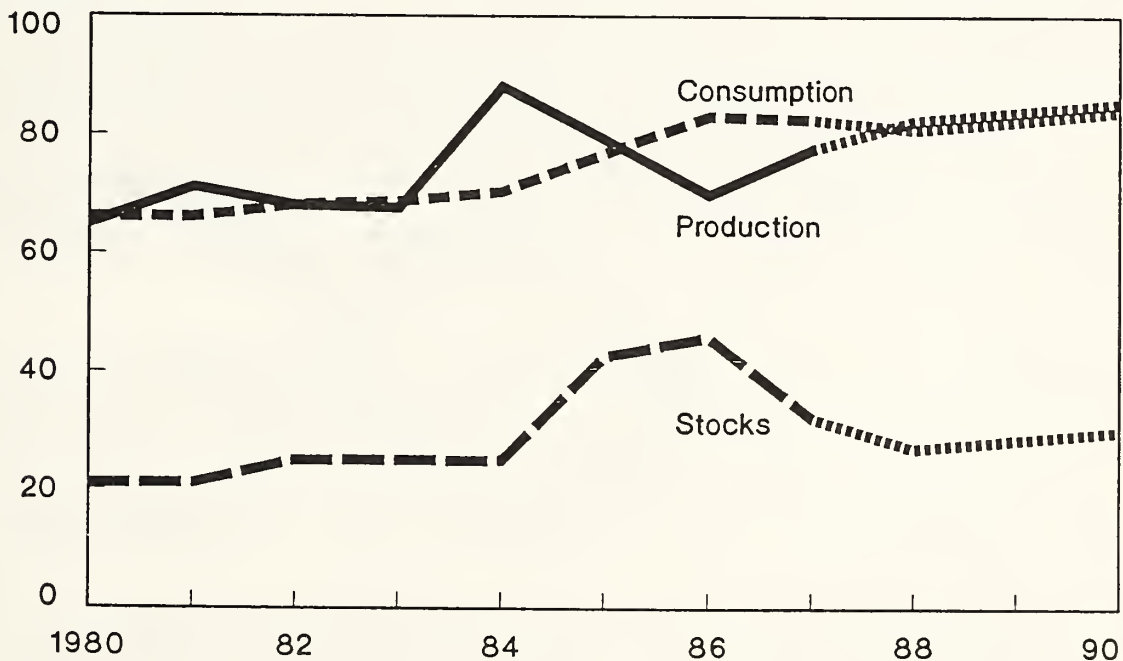
Mill Inventory-to-Use Ratio

Days



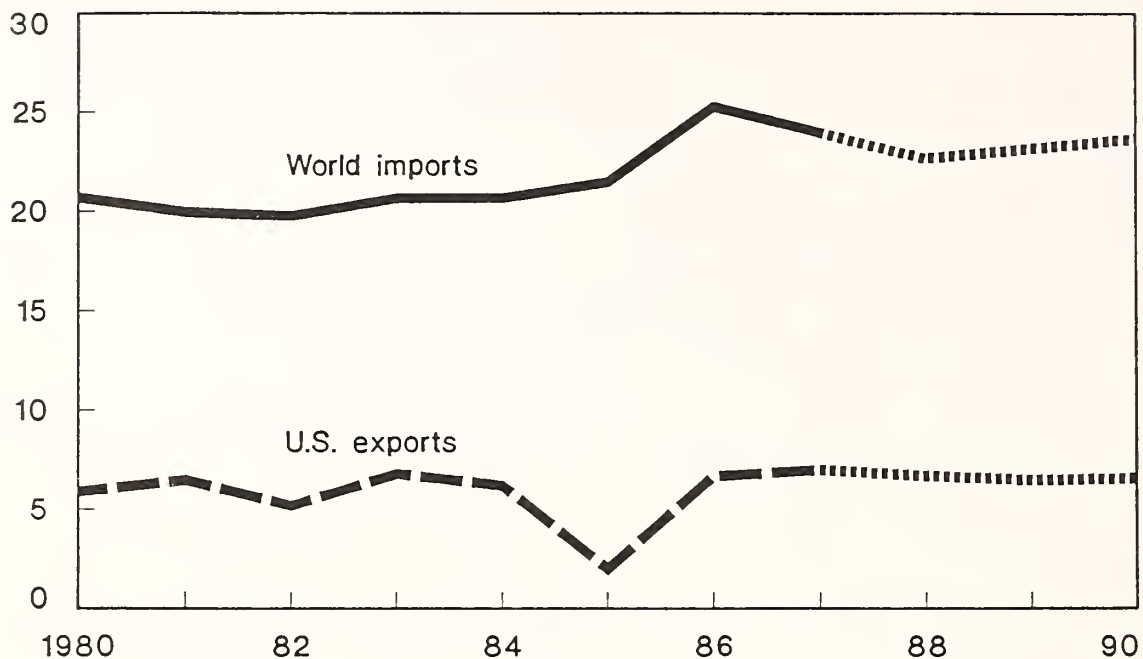
World Cotton Production, Consumption, and Stocks

Million bales



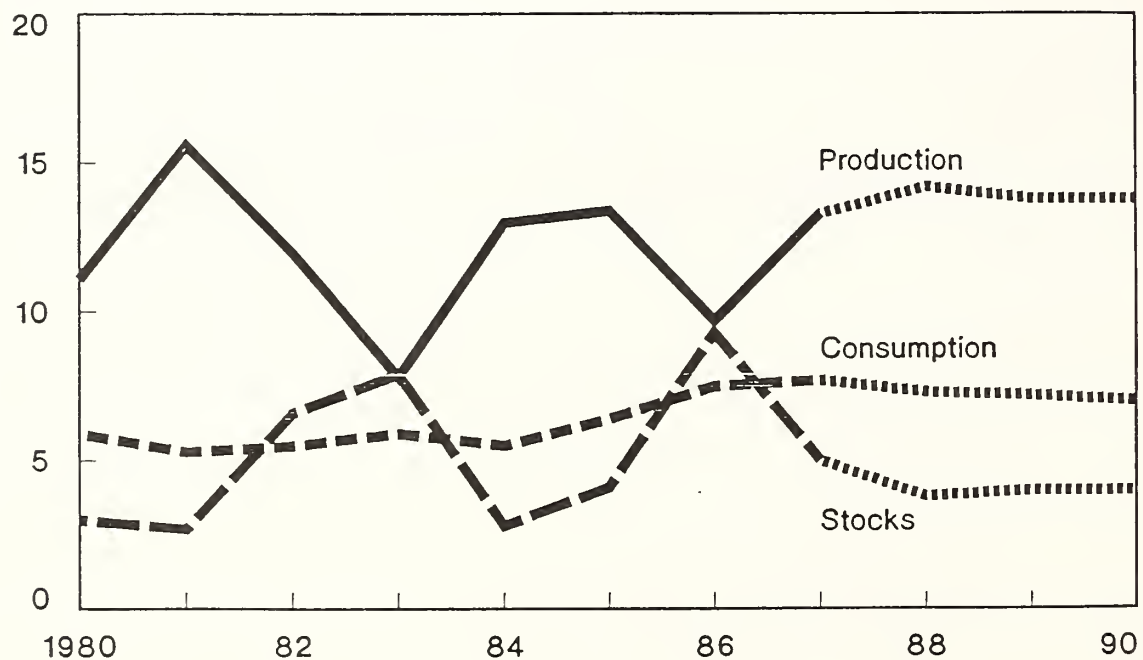
World Imports and U.S. Exports of Raw Cotton

Million bales



U.S. Cotton Production, Consumption, and Stocks

Million bales





ANNUAL AGRICULTURAL OUTLOOK CONFERENCE

United States Department of Agriculture

Washington, D.C.

Outlook '88, Session #10

WORLD COTTON TRADE PROSPECTS TO 1990

Terry P. Townsend

Statistician

International Cotton Advisory Committee

World cotton trade has trended upward since World War II, but is currently falling from a 1986/87 peak of nearly 26 million bales. In trying to assess what will happen to trade over the next 3 seasons, I begin with the assertion that world trade is determined primarily by what importers want to buy. Thus, it is the demand for textile products from countries that import cotton that is the chief long run determinant of world trade. I am also going to make an assumption that use of raw cotton is going to fall, at least in the market economies, sometime during the next several years. Lower consumption will mean less trade.

Imports Trending Higher

World cotton imports rose from about 17 million bales in 1960/61 to nearly 26 million in 1986/87. The average increase per year has been about 230,000 bales, although growth during the mid-1970's stagnated, and the increases since 1982/83 have been much greater. Imports last season and during this season are well above the 27-year trend, so on that basis alone, declines might be expected sometime during 1988/89-90/91.

The effects of rapid economic growth in the early 1970's and mid-80's on cotton mill use and, subsequently, imports are apparent by the peaks during 1972/73 and 1986/87. The rise in imports during 1986/87 was further boosted by the drop in cotton prices which encouraged increased stock holding by importers. The boost to world trade given by PRC imports in 1979/80, and the effects of the recessions in 1974/75 and 1980-82 are also apparent.

Turkey provides a well known example of a country substituting textile production for raw cotton exports. Since the mid-1970's, exports from Turkey have declined from over 1 million bales each year to only about 300,000. The reason has been an increase in domestic use, which has reduced the amount of cotton Turkey has had available for export. This change has been the direct result of

policies undertaken by the Government to promote the export of higher value added products. In the coming years, it is possible that the same phenomenon will occur in Pakistan, and exports by the PRC are likely to remain below the 3-million-bale mark reached during 1986/87.

Even though total trade has been rising, cotton imports as a share of world consumption have been dropping because of experiences like that of Turkey. Imports accounted for about 37 percent of world use in 1960/61, but only about 30 percent of world use will be supplied by imports during the current season.

Over the last 27 years, trade as a share of use has declined about one-fourth percentage point per year, and the trend is pointing to a share of less than 29 percent in 1990/91. If this tendency continues, world use would have to rise to 90 million bales in 1990/91 for world trade to match the 1986/87 level of 25.7 million bales. World trade is more likely to range between 22 and 25 million bales during 1988/89-90/91, with world consumption perhaps reaching 85 million bales by 1990/91.

Demand Due to Decline

Between 1984/85 and 1986/87, world cotton consumption rose 15 percent to 82 million bales. This increase was larger than can be explained statistically by growth in population and income alone. Cotton prices are not strongly correlated with changes in world cotton use. However, the steep drop in prices which occurred during the first half of 1986, along with shifts in consumer preferences to natural fibers, must have provided a boost to consumption.

During 1987/88, world consumption is increasing less than 200,000 bales because use in the PRC is dropping by 1.1 million. The Government of the PRC has ended special subsidies to encourage the non-mill use of surplus cotton. Cotton use outside the PRC is rising by 1.3 million bales or 2 percent during the current season, which is faster than the rate of population growth.

Declines in consumption may occur in several countries during 1988/89. The Cotlook A Index, which averaged 62 cents a pound during 1986/87, is expected to rise nearly 30 percent to about 80 cents a pound in 1987/88. Mill use does not respond quickly to changes in fiber prices because it is difficult to adjust spinning equipment to different types of fiber, and because mills purchase cotton months in advance of when it is actually spun. Much of the cotton being used in textile mills during August - December 1987, and even into 1988, was purchased in 1986 and early 1987, when prices were lower than they are now.

But the rise in cotton prices will eventually begin to affect use. During 1987/88, about 50 million bales of mill use will occur outside the PRC, the Soviet Union, Eastern Europe, Vietnam, Cuba and the Democratic Republic of Korea. Even if a one percent rise in cotton prices is assumed to reduce mill use by only one-tenth of

one percent, the 30 percent rise in prices which is occurring this season would reduce mill use in the market economies by 1.5 million bales during 1988/89.

In the United States, consumer spending has increased at twice the rate of other components of GNP since 1984, and the savings rate is at a post World War II low. Consumer spending will have to slow relative to income to rebuild the savings base back to more normal levels. The U.S. economy will influence the economies of other nations as well, since the United States is a major market for developing and developed countries. It seems that a reasonable forecast for the next few years would call for slower than average economic growth. This would imply lower cotton consumption and lower imports during 1988/89.

Importers Reducing Stocks From 1986/87 High

Imports by Japan rose from 3 million bales in 1985/86 to 3.8 million during 1986/87, as importers there took advantage of changes in the U.S. farm bill. During 1986/87, Japanese ending stocks rose to 17 percent of use, compared with an average of 10 percent during 1982/83 through 1984/85. The Japan Spinners Association estimates that during 1987/88, cotton imports will be a little over 3.2 million bales. This will bring the stocks-to-use ratio back down to about .09. During 1988/89, with consumption likely to drop to about 3.3 million bales, imports may also be about 3.3 million bales.

Imports by China(Taiwan) rose to 2.25 million bales in 1986/87, and some retrenchment seems likely. Imports are estimated at 1.8 million bales for 1987/88, and they could remain at about the same level during 1988/89, as stocks are held at about one-third of use.

In the Republic of Korea, imports are estimated down about 150,000 bales this season from 1.85 million bales in 1986/87. If consumption slides down a bit due to slower economic growth in the major end-use markets, Korean imports could decline another 100,000 bales in 1988/89.

In Hong Kong, imports rose to nearly 1.5 million bales during 1986/87, boosting Hong Kong stocks to 28 percent of use. The ratio of stocks to use is dropping below .2 this season, and imports during 1988/89 might fall below 1.2 million bales.

The same pattern is likely for the Federal Republic of Germany and Italy. Imports soared during 1986/87, and stocks-to-use ratios rose well above normal. Imports are declining this season to bring ending stocks back down to about 45 percent of use in Germany and 15 percent of use in Italy. With consumption likely to fall during 1988/89, imports are likely to either fall or stay unchanged.

An important determinant of the quantity of cotton that will be traded during the next 3 seasons will be production in the Soviet Union, and possibly also in Indonesia, Thailand and Spain. These 4 countries are the only cotton producers among the top 18 importing countries, and imports by the 4 producers totaled 3 million bales in 1986/87 or about 12 percent of world trade. Specific efforts are underway in each of the four to raise more cotton and import less.

In the Soviet Union, imports during 1980/81 through 1986/87 ranged between 100,000 and 800,000 bales. But imports during this season are likely to exceed 1 million bales. During the last decade, Soviet production has been as high as 13 million bales, but may fall to 11 million this season.

Agricultural officials in the USSR are embarking upon new programs to boost yields, including increasing the amount of land to be devoted to crop rotations. During the next few years, the likely result will be less land devoted to cotton and production of no more than about 12 million bales. With mill use rising -- long term plans call for a 30 percent increase in cotton yarn production by 2000 -- it is possible that imports by the Soviet Union will average above 1 million bales through 1990/91.

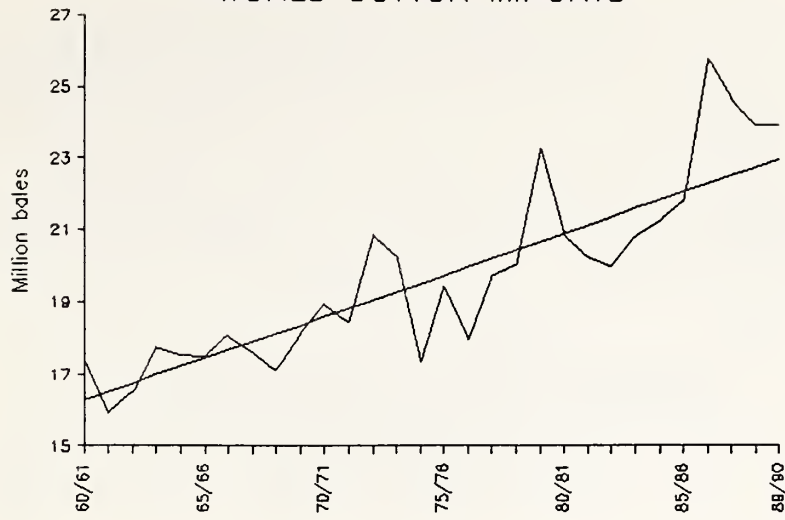
Indonesia and Thailand have the potential to produce more cotton than they do, and both have extensive research programs to boost yields and government programs to encourage expanded cotton acreage. Together, the two countries produce less than 200,000 bales while importing nearly 2 million. Large gains in production are not likely during the next three years, but the research programs could start paying off in the 1990's.

Spain is another importer whose production could rise. Since Greece joined the EEC, production has risen about 50 percent. If the same thing occurs in Spain, about 200,000 bales will be shaved from world trade.

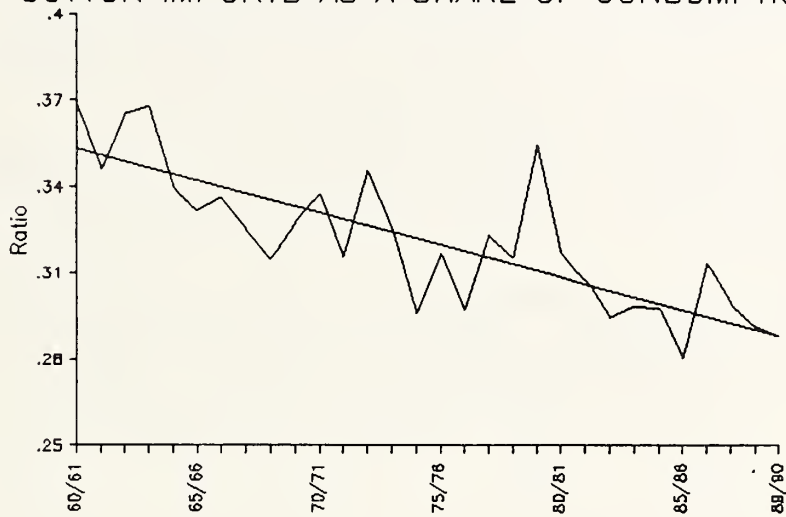
Trade Growth Likely to Resume by 1990

By the end of the 1988/89 season, stocks in importing countries will probably be fairly low and quantities imported will depend on the level of world demand for textile products. Assuming consumer demand is strengthening at least by 1990, trade could start rising in the second half of the 1989/90 season. Demand could be even stronger by 1991. Cotton consumption could reach 85 million bales that season, and trade could be back up to around 24 to 25 million bales. This would imply a ratio of world imports to consumption of a little less than 29 percent, which is about what present trends imply.

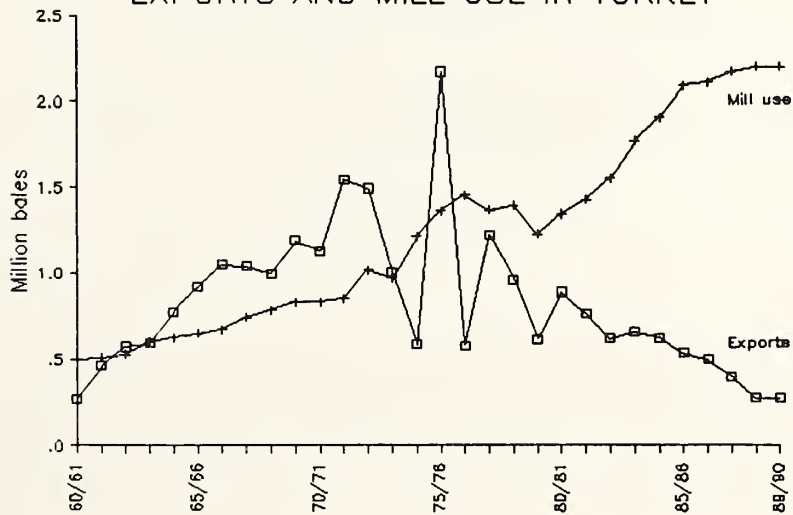
WORLD COTTON IMPORTS



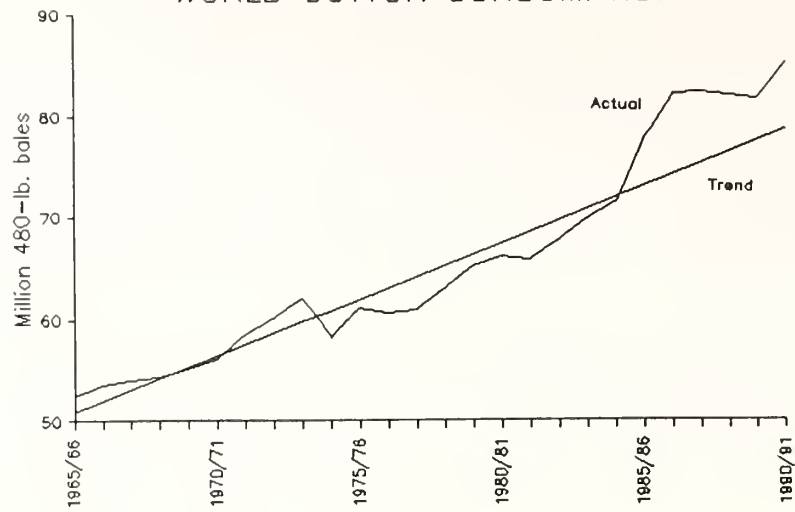
COTTON IMPORTS AS A SHARE OF CONSUMPTION



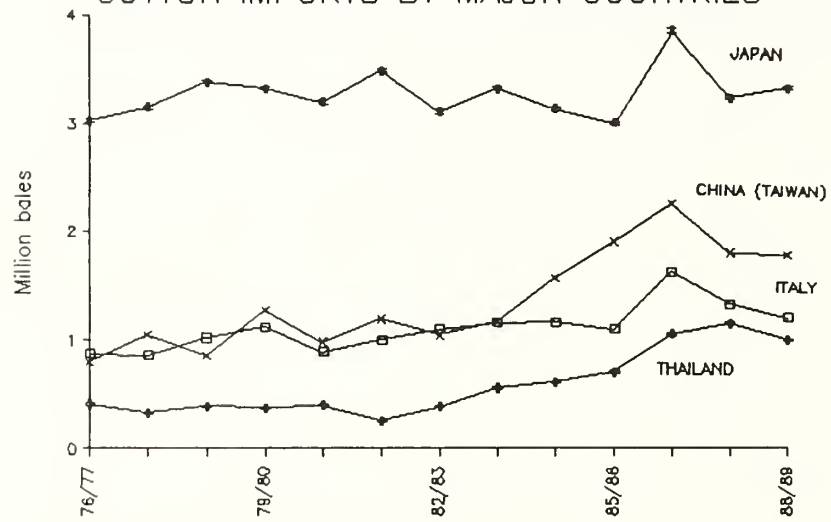
EXPORTS AND MILL USE IN TURKEY



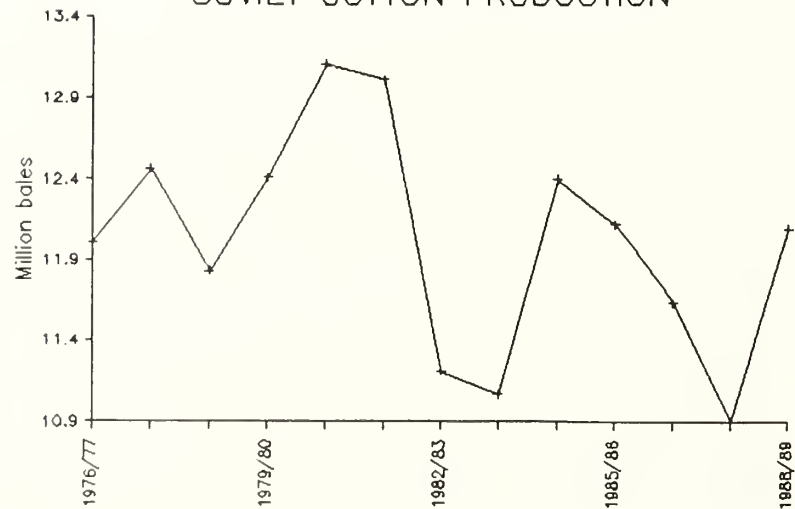
WORLD COTTON CONSUMPTION



COTTON IMPORTS BY MAJOR COUNTRIES



SOVIET COTTON PRODUCTION



ANNUAL AGRICULTURAL OUTLOOK CONFERENCE
United States Department of Agriculture
Washington, D.C.



Outlook '88, Session #11

For Release: Wednesday, December 2, 1987

**A LONGTERM OUTLOOK FOR WORLD SUGAR AND
THE 1988 U.S. SWEETENER MARKET**

Robert D. Barry
Economic Research Service

We are fortunate to have with us today, two of the top names in the pantheon of sugar analysts, Dr. Helmut Ahlfeld and Dr. Merrill Bateman. It's been my privilege to know them and their work for several years now, and I'm very honored to share this podium with them.

Helmut, Merrill, ladies and gentlemen: it's been said, when the U.S. sneezes, the world catches a cold. Let us concede some truth to that in the world market for sugar! However, before we get too U.S.-centric, let us observe that there are many *dramatis personae* out there, and their actions individually and as a group make the market what it is.

Actually, as we look at 1988, the market doesn't look too bad. Indeed, it seems to be getting over its chronic affliction of low prices. A longer-term prognosis is still tenuous, but at least in the coming year, the balance of production and consumption is in the right direction (Table 1).

USDA's Foreign Agricultural Service this week is releasing its circular on world sugar statistics. Let us note, as we look at the numbers, that these may not be directly comparable with some other sugar statistical series because of differences in dating, concepts, and coverage.

Production: World sugar production in 1987/88 is forecast to fall 1.5 percent, to 101.2 million metric tons, reflecting 1.9 million metric tons (nearly 5 percent) less beet sugar. (All values are in raw sugar equivalent.) ((Table 2) North America beet sugar production was up nearly 200,000 MT (just over 5 percent) as a result of much higher U.S. output. Production in the European Community (EC-12) declined 1.4 MMT (nearly 10 percent) because of poor weather but also from a 2.5-percent lower area in sugarbeets this year. Poor weather also caused production declines in Other Western Europe, by 100,000 MT, and in East Europe, by 200,000 MT. Late sowing and weather and transport problems brought down USSR output by 400,000 MT or about 4.5 percent.

Note that beet sugar production in the EC-10 (without Spain and Portugal) has declined 3.65 MMT, or 23 percent, from 1981/82. Area harvested fell 18 percent.

World cane sugar production cannot be as definitively estimated at this time, but preliminary indications are for a slight rise, to about 65 MMT. After setting records in 1981/82-1982/83, world cane sugar output fell in 1983/84, but has been

steadily rising since then, despite lower world prices. Production in 1987/88 would be estimated higher, if Asian production not been forecast 200,000 MT (1 percent) below 1986/87. Production is forecast 2 percent lower in both India and China, as result of drought in India and apparently low state purchase prices in China. North America cane sugar production is estimated to rise over 200,000 MT, reflecting gains in Mexico and the United States. Cuba's output is stagnant at 7.25 MMT, but overall Caribbean production is up slightly, by about 100,000 MT (1.3 percent). With better weather this season, the Dominican Republic is estimated to raise cane sugar production 100,000 MT, nearly 13 percent. Jamaican farmers are shifting back to sugarcane, primarily for ethanol production as a result of recent favorable rulings on ethanol originating in Caribbean Basin Initiative countries.

Consumption and Trade: World consumption of sugar is forecast to rise to 101.7 million tons, about 1.5 percent compared with last year's 2 percent (which equaled the 1981/82-1986/87 trend). Only South America and Asia show much of an increase, at 2.5 percent each, largely because of better GNP prospects in Brazil, Argentina, Thailand, and Indonesia (Table 3). World trade in sugar continues to shrink. Imports are down; and exports, which statistically lead imports, are forecast to fall 1-1/2 MMT to 28 MMT. This reflects both slow demand growth and import-substitution policies, as well as foreign-exchange needs. To the extent that real GNP in developing countries rise faster (Wharton projects 3.5 percent in 1988 versus 2.4 percent in 1987), these consumption and trade estimates could turn out higher.

Stocks and Prices: With estimated global sugar production exceeding consumption, stocks are expected to fall. World sugar stocks, excluding the United States, are forecast to decline nearly 3 MMT, about 10 percent. (U.S. import and stock data will be available in December.) As a result of the anticipated stock drawdown, prices have been moving up, to just above 7 cents a pound currently, from 5.8 cents just three months ago September. The force appears to be with us!

However, before we get swept away with visions of sugarplums and Saturnalia, hold on a moment. Have we been here before? A year ago, some of us had such visions and some went on to foretell a cyclical upswing, glowing in the aura of prices in the teens and even twenties.

It's been said: if you forecast wrong, go on to the next forecast; if you forecast correctly don't let them forget it. Alright, some of us were on the correct side last year when, at that time, we urged caution.

But what about this year? Note that today's 7 cents has not been a stranger to us this past year. Prices ascended from 5.7 cents in December 1986 to an average 7.5 cents just three months later, in March. Yet, without a doubt, the market today is tighter than in December 1986. On that, all the major sugar statistical services are agreed. Still: are we on the upswing of the price cycle? Will we have prices above 10 cents for, say, at least six months? Here the forecaster's glass looks less clear.

As we look ahead beyond the next few months, note that:
(1) Beet and cane processing capacity is still substantially above consumption, probably in excess of 120 MMT. Capacity continues to increase, recently about a million tons a year.

(2) When prices rise, supply response tends to be quick. When prices fall, response is weak. Governments have a bias to rescue production levels, for social, political, or other extra-economic reasons. This suggests the possibility that the current price strength may be snuffed out before it reaches reasonably remunerative levels.

(3) Some analysts contend that world sugar consumption will rise faster, now that the major displacement of sugar by high fructose corn sirup (HFCS) in the United States has been completed. However, crystar (crystalline fructose) and low-calorie sweeteners are longer-term threats, and HFCS has potential outside the United States. But even if sugar consumption recovers its pre-HFCS growth trend, this does not invalidate the basic tendency toward world sugar overproduction and basement-level prices which existed before HFCS and continues today.

If there is a tendency toward overproduction because of independently pursued national sugar policies, and if the result is chronically lower prices that are damaging to all, what can or should be done?

Increasingly, we hear calls for an International Sugar Agreement. There are pluses and minuses to such a proposal. Ten years ago, the United States was signatory to an ISA. The 1977 ISA, with economic provisions, was to be "the cornerstone" of U.S. sugar policy, but the Agreement foundered and was not renewed beyond 1984. Perhaps with fuller membership (including the EC) and greater discipline (the need overcoming the greed), such a proposal could work. But let us not be misled: an ISA is a price-fixing market-sharing arrangement on an international scale. It calls for greater, not less government intervention. No distinction is made between efficient and inefficient producers. No provision is made for a more efficient allocation of resources. And there is a strong tendency to stifle product and process innovation, such as less expensive competitive sweeteners, because those would be disruptive.

An ISA may work, but at what cost? It may be an improvement over what we have now, but why not something even better? I refer, of course, to the Uruguay round of the Multilateral Trade Negotiations (MTN's) under GATT and specifically to the U.S. proposal for trade liberalization: the elimination of all trade-distorting policies including subsidies and barriers to market access, within ten years. The proposals are not as ruthless or Darwinian as they may seem. Without subsidies, the world price for sugar would be much higher than today, perhaps above 15 cents a pound. Also, farmers would be eligible for income payments so long as those payments are not linked to production (the "de-coupled" concept). USDA's Economic Research Service, in support of the MTN's, has recently completed generic measures of government support for sugar and other commodities in the period 1982-1986. These measures, called producer-subsidy-equivalents and consumer-subsidy-equivalents, will provide guides toward the negotiated elimination of protectionism in a multi-commodity, multi-country framework.

U.S. Outlook

U.S. raw sugar prices (Contract No. 14, nearby futures) averaged 21.67 cents a pound in fiscal 1986/87 compared with 20.46 cents in 1985/86, although the loan rate was maintained at 18 cents. The higher market prices reflect in part a

higher market stabilization price (MSP) of 21.78 cents versus 21.50 cents. More significant is the role of Section 902 of the 1985 Food Security Act which requires that the sugar program be administered at no cost to the U.S. Treasury, by preventing the forfeiture of sugar loan-collateral to the Commodity Credit Corporation. Necessarily, this feature limits administrative discretion and makes program and price management more risk-averse. (Note however, that the MSP is not necessarily the price objective. The MSP is technically used to set bond and liability for the quota-exempt U.S. import programs mainly the re-export program. Still, the MSP provides a guideline for the actual price objective which continues to be discretionary, subject to the no-cost mandate.)

The big story in U.S. sugar this year is PRODUCTION, writ large, and its far-reaching implications. Through the stimulus of assured and attractive domestic sugar market prices, growers have expanded acreage in sugar crops. Beet acreage rose 8 percent in 1986/87 and nearly 5 percent this year. Cane was up almost 4 percent last year and nearly 4.4 percent this year. Weather has been almost uniformly excellent, spurring yields to a record 3 tons of sugar (raw value) per sugarbeet acre. This year will likely mark the third largest beet sugar production ever, topped only by the 1975 and 1976 crops. Beet sugar production is estimated at 3.7-3.9 million short tons (MST), raw value, compared with 3.4 MST the previous crop. Cane sugar production, estimated at 3.3-3.4 MST would be a new record. The point estimates are 3.85 million tons beet sugar and 3.325 million tons cane. Total sugar output, in excess of 7 MST, would be the largest in U.S. history (Table 8).

The record output is not simply the result of good returns for sugar crops. To a large extent, "good returns" depend on profitability of alternative crops. These alternatives have not shown up well, as indicated by returns to management and risk for 1984-1986 (Table 9). Without government payments, returns would be negative for corn, cotton, and wheat. In contrast, sugarbeets yielded over \$100 an acre for the 1985 crop and \$176 an acre for 1986.

Sugarbeet processing capacities have been expanded to accommodate larger crops. There is always a way of stretching resources, even though no new factories have been built since 1975. Since 1983, beet slicing capacity has been raised 40 percent in Region I--Michigan-Ohio. All other areas are up, by 5 to 16 percent each, depending on the region. Despite the Great Western bankruptcy in 1985, overall slicing capacity is up 2 percent from 1983 (Table 10).

With continuation of relatively attractive prices, acreage in sugar crops in 1988 is unlikely to decline. Yields, however, are always problematical, and statistically the likelihood is for some moderation from 1987's extraordinary levels.

On the demand side of the equation, sugar deliveries are up, for the first time in almost a decade, as HFCS has ceased to be a large raider of sugar markets. Technical substitutability is close to state-of-the-art limits. Deliveries of refined sugar totaled 7.86 MST in fiscal 1987/88, up 2.6 percent from last year, with confectionery deliveries rising 7.4 percent, bakery/cereal 2.6 percent, and miscellaneous food uses 20 percent. Growth tapered off in the July-September quarter, to just over 1 percent. In 1988, growth will be a function of population, as income and price elasticities of demand for sugar are

modest (Table 13). The national average retail price for sugar has been stable the past two years at 35 cents a pound, and is down almost 1 1/2 cents from 1983/84, despite higher raw sugar prices. Retail prices are likely to rise slightly in 1988.

HFCS prices, and prices for other corn sweeteners, have dropped in 1987. HFCS-55 in Chicago-West averaged 18.4 cents in 1986/87, down from 19.15 cents in 1985/86. Other corn sweetener prices declined less than one cent. In part, the lower prices reflect the maturity of the HFCS market and greater competition for market share among corn wet millers. In part, lower product prices have been made possible by lower corn costs and better prices for corn milling byproducts (corn oil, gluten feed, and meal). Net starch costs in January-September this year averaged one cent a pound, compared with 3 cents for the same period 1986. In 1988, corn prices are forecast to rise only slightly, and starch costs are expected to continue to favor corn sweetener producers.

HFCS deliveries from domestic sources increased 5 percent in fiscal 1986/87, to almost 5.6 MST, dry basis. Imports from Canada are above 200,000 ST. In 1988, HFCS domestic deliveries are forecast to rise more slowly than in 1987, but crystar use will be higher. Per capita caloric sweeteners consumption (more accurately, this should be in quotes, if only to register waste) is estimated at about 131 pounds in 1987, up 2 pounds from last year. In 1988, consumption is forecast one pound higher, largely in industrial use. Consumption of aspartame will also be slightly higher, while saccharin use could stabilize after recent losses to aspartame (Table 14).

Tending to detract from domestic sugar demand are U.S. imports of sugar-containing products. These have trebled since 1981 to nearly 620,000 ST in 1986 (for selected products, Table 12). Imports of various miscellaneous food products, especially sugar-gelatin mixtures, and sweetened chocolate, continue to escalate, but other items appear to have stabilized in 1987. Estimates of sugar contained in products are variable, but the General Accounting Office has canvassed the subject and will report on this soon.

Growth in U.S. sugar production, weak demand prospects, and a mandate to keep prices up, have a predictable effect on sugar imports. Total imports (including imports for re-export) have dropped to 1.9 MST in fiscal 1986/87, from nearly 5 MST in 1979/80. Imports under quota, for domestic food and beverage use, have been reduced from 3 MST in 1982/83 when restrictive quotas were first imposed, to 1.2 MST in 1986/87 (one million tons in calendar 1987) (Table 11). Imports in 1988 have been established at _____. You can probably fill-in the blank better with the 1987/88 supply and use table presented herewith! But for a precise figure, we all await the President's signature.

POSTSCRIPT: A U.S. sugar import quota of 757,880 tons (inclusive of 2,000 tons specialty sugar) was announced on December 14 for calendar 1988. That quota would be 24 percent below 1987 and 75 percent below 1984 sugar quota imports.

Table 1.--World Sugar production, supply, and distribution 1985/86 to 1987/88

Crop Year <u>1/</u>	1985/86	1986/87	1987/88 2/	1987/88 3/ 4/
Million metric tons, raw value				
Beginning stocks	29.4	28.3	27.5	26.1
Production	99.0	102.8	101.2	94.7
Imports	28.2	26.4	NA	24.3
Total supply	156.7	157.5	NA	145.1
Domestic consumption	98.4	100.4	101.7	94.3
Exports	29.9	29.6	28.0	27.6

1/ Crop year September/August, but includes the outturn of Southern Hemisphere countries which begin harvests prior to September. 2/ World estimates including the United States. 3/ World estimates excluding the United States. 4/ Preliminary estimate.

SOURCE: Foreign Agricultural Service (FAS), USDA.

Table 2.--World centrifugal sugar production, by region, 1985/86 to 1987/88

Region	1985/86		1986/87		1987/88 1/	
	Beet	Cane	Beet	Cane	Beet	Cane
1,000 metric tons, raw value						
North America <u>2/</u>	2,772	6,677	3,432	6,933	3,613	7,166
Caribbean	0	8,672	0	8,609	0	8,718
Central America	0	1,824	0	1,773	0	1,795
South America	385	12,724	518	13,232	508	13,664
European Community	14,398	17	14,846	17	13,410	16
Other Western Europe	1,039	0	937	0	825	0
Eastern Europe	5,882	0	5,761	0	5,570	0
USSR	8,260	0	8,700	0	8,300	0
North Africa	461	1,420	451	1,489	486	1,500
Other Africa	0	5,887	0	5,904	0	5,851
Middle East	1,939	270	1,854	350	1,931	300
Asia	1,512	21,113	1,535	22,485	1,530	22,289
Oceania	0	3,745	0	3,940	0	3,725
Total, by type	36,648	62,349	38,034	64,732	36,173	65,024
Total, centrifugal sugar	98,997		102,766		101,197	

1/ Preliminary estimate. 2/ United States includes Hawaiian cane, but excludes Puerto Rico cane (which is listed under Caribbean).

SOURCE: FAS, USDA

Table 3.--World centrifugal sugar consumption, by region, 1985/86 to 1987/88

Region	1985/86	1986/87	1987/88 <u>1/</u>
Million metric tons, raw value			
North America	11.9	12.1	12.1
Caribbean	1.5	1.5	1.5
Central America	0.9	1.0	1.0
South America	11.0	11.3	11.6
European Community	11.5	11.4	11.4
Other Western Europe	1.4	1.4	1.4
Eastern Europe	6.0	6.0	6.0
USSR	13.2	13.4	13.4
North Africa	3.8	4.0	4.1
Other Africa	4.2	4.3	4.3
Middle East	5.0	5.0	5.1
Asia	27.1	27.9	28.7
Oceania	1.0	1.1	1.1
Total	98.4	100.4	101.7

1/ Preliminary estimate.

SOURCE: FAS, USDA

Table 4.--World sugar imports, by region, 1985/86 to 1987/88

Region	1985/86	1986/87	1987/88 1/	1987/88 2/
Million metric tons, raw value				
North America	3.3	2.8	NA	1.1
Caribbean	0.2	0.1	0.1	0.1
Central America	0.0	0.0	0.0	0.0
South America	0.5	0.5	0.4	0.4
European Community	3.2	3.1	3.1	3.1
Other Western Europe	0.5	0.5	0.5	0.5
Eastern Europe	1.2	1.2	1.2	1.2
USSR	5.0	4.5	4.8	4.8
North Africa	2.0	2.1	2.1	2.1
Other Africa	1.2	1.2	1.2	1.2
Middle East	2.6	2.9	3.0	3.0
Asia	8.4	7.4	6.5	6.5
Oceania	0.2	0.2	0.2	0.2
Total	28.2	26.4	NA	24.3

1/ World estimates including the United States. 2/ World estimates excluding the United States.

SOURCE: FAS, USDA.

Table 5.--World sugar exports, by region, 1985/86 to 1987/88

Region	1985/86	1986/87	1987/88
Million metric tons, raw value			
North America	0.7	1.4	1.0
Caribbean	7.7	7.4	7.3
Central America	1.0	1.0	0.9
South America	3.3	3.1	3.2
European Community	6.2	6.7	5.7
Other Western Europe	0.1	0.1	0.1
Eastern Europe	1.1	1.0	1.0
USSR	0.2	0.2	0.1
North Africa	0.0	0.0	0.0
Other Africa	3.1	2.8	2.7
Middle East	0.1	0.1	0.1
Asia	3.4	2.7	2.9
Oceania	3.2	3.3	2.9
World Total	29.9	29.6	28.0

SOURCE: FAS, USDA.

Table 6.-- World raw sugar price, 1977 - 1987

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	1st Q.	2nd Q.	3rd Q.	4th Q.	Average
Cents per pound																	
1977	8.37	8.56	8.98	10.12	8.94	7.82	7.38	7.61	7.30	7.08	7.07	8.09	8.64	8.96	7.43	7.41	8.11
1978	8.77	8.48	7.74	7.59	7.33	7.23	6.43	7.08	8.17	8.96	8.01	8.00	8.33	7.38	7.23	8.32	7.82
1979	7.57	8.24	8.47	7.82	7.36	8.14	8.52	8.85	9.91	11.93	13.69	14.86	8.09	7.94	9.09	13.49	9.66
1980	17.23	23.03	20.12	21.61	31.33	31.61	28.12	31.98	35.12	41.09	37.94	29.00	20.13	28.18	31.74	36.01	29.02
1981	28.04	24.27	21.77	17.90	15.08	16.35	16.32	14.76	11.66	12.13	11.96	12.96	24.69	16.44	14.25	12.35	16.93
1982	12.99	13.05	11.24	9.53	8.12	6.85	7.83	6.80	5.90	5.91	6.50	6.27	12.43	8.17	6.84	6.23	8.42
1983	5.98	6.40	6.18	6.71	9.27	10.80	10.53	10.52	9.46	9.67	8.52	7.82	6.19	8.93	10.17	8.67	8.49
1984	6.95	6.58	6.42	5.96	5.58	5.48	4.51	4.01	4.11	4.66	4.41	3.51	6.65	5.67	4.21	4.19	5.18
1985	3.59	3.66	3.78	3.37	2.77	2.74	3.15	4.35	5.14	5.01	5.53	5.37	3.68	2.96	4.21	5.30	4.04
1986	4.87	5.55	7.07	8.36	7.64	6.36	5.58	5.50	4.67	5.42	5.93	5.66	5.83	7.45	5.25	5.67	6.05
1987	6.47	7.32	7.51	6.64	6.71	6.40	6.03	5.57	5.79	6.60			7.10	6.58	5.79		

1/ 1971 through Oct. 1977, Contract No. 11, f.o.b. stowed Caribbean ports (including Brazil), bulk. Nov. 1977 through Dec. 1978, International Sugar Agreement price, f.o.b. stowed Caribbean ports, in bulk. Starting Jan. 1979, prices are for Contract No. 11, f.o.b. stowed Caribbean ports (including Brazil), bulk (spot price).

SOURCE: Coffee, Sugar & Cocoa Exchange, Inc.

Table 7.-- U.S. raw sugar price, 1977 - 1987

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	1st Q.	2nd Q.	3rd Q.	4th Q.	Average
Cents per pound																	
1977	10.95	11.06	11.67	12.57	11.34	10.28	10.15	11.21	10.41	10.23	10.42	11.75	11.23	11.40	10.59	10.80	11.00
1978	13.28	14.75	14.00	13.93	13.62	13.57	12.63	13.29	14.41	15.17	14.24	14.25	14.01	13.71	13.44	14.55	13.93
1979	14.63	15.31	15.53	14.29	14.33	14.61	15.59	15.92	15.98	15.91	16.29	18.30	15.16	14.41	15.83	16.83	15.56
1980	19.66	24.69	21.18	22.67	31.89	32.10	28.75	33.13	36.03	41.69	39.28	30.29	21.84	28.89	32.64	37.09	30.11
1981	29.61	26.07	23.81	19.91	17.43	18.95	19.09	17.42	15.49	15.66	16.28	17.07	26.50	18.76	17.33	16.34	19.73
1982	18.16	17.77	17.13	17.89	19.57	21.03	22.15	22.45	20.88	20.44	20.79	20.83	17.69	19.50	21.83	20.69	19.92
1983	21.23	21.76	21.86	22.43	22.59	22.54	22.09	22.55	22.20	21.94	21.83	21.47	21.62	22.52	22.28	21.75	22.04
1984	21.51	21.90	22.00	22.03	22.01	22.06	21.89	21.72	21.70	21.56	21.40	21.10	21.80	22.03	21.77	21.35	21.74
1985	20.72	20.38	20.91	20.97	21.09	21.27	21.23	20.59	19.51	18.68	18.89	19.89	20.67	21.11	20.44	19.15	20.34
1986	20.67	21.01	20.95	20.85	20.88	20.99	20.97	20.87	20.87	21.08	21.17	21.12	20.88	20.91	20.90	21.12	20.95
1987	21.50	21.76	21.76	21.81	22.01	22.06	22.07	21.88	21.88	21.69			21.67	21.96	21.94		

1/ Nov. 21, 1966 - Oct. 1977, Contract No. 12, Nov. 1977 through Dec. 1978, London daily price, c.i.f. U.K., bulk basis, converted to duty-paid, New York. 1979 to May 1985, Contract No. 12, c.i.f., duty/fee-paid, New York. June 1985 - Dec. 1985, nearby No. 12 futures. Starting Jan. 1986, prices are for nearby No. 14 futures.

SOURCE: Coffee, Sugar & Cocoa Exchange, Inc.

Table 8.-- U.S. sugar production and harvested area, 1975 to 1987 crop years

Year	Production		Harvested area	
	Beet	Cane	Total	Beet Cane
	1,000 short tons, raw value		1,000 acres	
1975-80 average	3,390	2,730	6,120	1,298 705
1981-85 average	2,945	2,973	5,918	1,102 715
1985	3,000	3,033	6,033	1,102 723
1986	3,414	3,281	6,695	1,191 751
1987 forecast	3,850	3,325	7,175	1,248 783
Percent Change:				
1985 to 1986	13.8	8.2	11.0	8.1 3.7
1986 to 1987	12.8	1.3	7.2	4.8 4.4
1985 to 1987	28.3	9.6	18.9	13.2 8.3

SOURCE: NASS and ERS, USDA.

Table 10.--U.S. sugarbeet refining capacity, 1983 and 1987

Region	Slicing capacity in short tons per day		Percent change
	1983	1987	
I Michigan - Ohio	17,300	24,250	40.2
II Minnesota - Eastern N. Dakota	36,800	39,355	6.9
III Nebraska - NE Colorado			
IV NW Kansas - SE Wyoming	30,575	17,850	-41.6
V Texas	6,500	7,200	10.8
VI Montana - NW Wyoming	13,000	15,050	15.8
VII Eastern Idaho	11,300	12,200	8.0
VIII Western Idaho - Oregon	15,700	17,000	8.3
IX California	34,350	36,050	4.9
Total U.S.	165,525	168,955	2.1

Source: ERS, USDA.

Table 11.--U.S. sugar imports, fiscal 1980 to 1987

Crop year	Fiscal year	All imports		All imports minus all exports	
		1/	Quota imports 2/		
1,000 short tons, raw value					
1984	1979/80	4,874	--	4,430	
	1980/81	4,967	--	3,704	
	1981/82	3,603	--	3,303	
	1982/83	3,238	2,981	3,040	
	1983/84	3,493	3,030	3,099	
	1984/85	2,665	2,192	2,201	
	1985/86	2,378	1,850	1,871	
	1986/87	1,884	1,237	1,110	
	Dollars per acre				
	1986	1979/80	-26	-49 (-18)	
1980/81		-16 (8)	-75 (24)		
1981/82		-35 (24)	-75 (96)		
1982/83		-10	-10		
1983/84		92	176		
1984/85		-90	-18		
1985/86		-17 (10)	-40 (11)		
1986/87					
Dollars per acre					
1985		1979/80	-26	-49 (-18)	
	1980/81	-16 (8)	-75 (24)		
	1981/82	-35 (24)	-75 (96)		
	1982/83	-10	-10		
	1983/84	92	176		
	1984/85	-90	-18		
	1985/86	-17 (10)	-40 (11)		
	1986/87				
	Dollars per acre				
	1986	1979/80	-26	-49 (-18)	
1980/81		-16 (8)	-75 (24)		
1981/82		-35 (24)	-75 (96)		
1982/83		-10	-10		
1983/84		92	176		
1984/85		-90	-18		
1985/86		-17 (10)	-40 (11)		
1986/87					
Dollars per acre					
1987		1979/80	-26	-49 (-18)	
	1980/81	-16 (8)	-75 (24)		
	1981/82	-35 (24)	-75 (96)		
	1982/83	-10	-10		
	1983/84	92	176		
	1984/85	-90	-18		
	1985/86	-17 (10)	-40 (11)		
	1986/87				
	Dollars per acre				
	1988	1979/80	-26	-49 (-18)	
1980/81		-16 (8)	-75 (24)		
1981/82		-35 (24)	-75 (96)		
1982/83		-10	-10		
1983/84		92	176		
1984/85		-90	-18		
1985/86		-17 (10)	-40 (11)		
1986/87					
Dollars per acre					
1989		1979/80	-26	-49 (-18)	
	1980/81	-16 (8)	-75 (24)		
	1981/82	-35 (24)	-75 (96)		
	1982/83	-10	-10		
	1983/84	92	176		
	1984/85	-90	-18		
	1985/86	-17 (10)	-40 (11)		
	1986/87				
	Dollars per acre				
	1990	1979/80	-26	-49 (-18)	
1980/81		-16 (8)	-75 (24)		
1981/82		-35 (24)	-75 (96)		
1982/83		-10	-10		
1983/84		92	176		
1984/85		-90	-18		
1985/86		-17 (10)	-40 (11)		
1986/87					
Dollars per acre					
1991		1979/80	-26	-49 (-18)	
	1980/81	-16 (8)	-75 (24)		
	1981/82	-35 (24)	-75 (96)		
	1982/83	-10	-10		
	1983/84	92	176		
	1984/85	-90	-18		
	1985/86	-17 (10)	-40 (11)		
	1986/87				
	Dollars per acre				
	1992	1979/80	-26	-49 (-18)	
1980/81		-16 (8)	-75 (24)		
1981/82		-35 (24)	-75 (96)		
1982/83		-10	-10		
1983/84		92	176		
1984/85		-90	-18		
1985/86		-17 (10)	-40 (11)		
1986/87					
Dollars per acre					
1993		1979/80	-26	-49 (-18)	
	1980/81	-16 (8)	-75 (24)		
	1981/82	-35 (24)	-75 (96)		
	1982/83	-10	-10		
	1983/84	92	176		
	1984/85	-90	-18		
	1985/86	-17 (10)	-40 (11)		
	1986/87				
	Dollars per acre				
	1994	1979/80	-26	-49 (-18)	
1980/81		-16 (8)	-75 (24)		
1981/82		-35 (24)	-75 (96)		
1982/83		-10	-10		
1983/84		92	176		
1984/85		-90	-18		
1985/86		-17 (10)	-40 (11)		
1986/87					
Dollars per acre					
1995		1979/80	-26	-49 (-18)	
	1980/81	-16 (8)	-75 (24)		
	1981/82	-35 (24)	-75 (96)		
	1982/83	-10	-10		
	1983/84	92	176		
	1984/85	-90	-18		
	1985/86	-17 (10)	-40 (11)		
	1986/87				
	Dollars per acre				
	1996	1979/80	-26	-49 (-18)	
1980/81		-16 (8)	-75 (24)		
1981/82		-35 (24)	-75 (96)		
1982/83		-10	-10		
1983/84		92	176		
1984/85		-90	-18		
1985/86		-17 (10)	-40 (11)		
1986/87					
Dollars per acre					
1997		1979/80	-26	-49 (-18)	
	1980/81	-16 (8)	-75 (24)		
	1981/82	-35 (24)	-75 (96)		
	1982/83	-10	-10		
	1983/84	92	176		
	1984/85	-90	-18		
	1985/86	-17 (10)	-40 (11)		
	1986/87				
	Dollars per acre				
	1998	1979/80	-26	-49 (-18)	
1980/81		-16 (8)	-75 (24)		
1981/82		-35 (24)	-75 (96)		
1982/83		-10	-10		
1983/84		92	176		
1984/85		-90	-18		
1985/86		-17 (10)	-40 (11)		
1986/87					
Dollars per acre					
1999		1979/80	-26	-49 (-18)	
	1980/81	-16 (8)	-75 (24)		
	1981/82	-35 (24)	-75 (96)		
	1982/83	-10	-10		
	1983/84	92	176		
	1984/85	-90	-18		
	1985/86	-17 (10)	-40 (11)		
	1986/87				
	Dollars per acre				
	2000	1979/80	-26	-49 (-18)	
1980/81		-16 (8)	-75 (24)		
1981/82		-35 (24)	-75 (96)		
1982/83		-10	-10		
1983/84		92	176		
1984/85		-90	-18		
1985/86		-17 (10)	-40 (11)		
1986/87					
Dollars per acre					
2001		1979/80	-26	-49 (-18)	
	1980/81	-16 (8)	-75 (24)		
	1981/82	-35 (24)	-75 (96)		
	1982/83	-10	-10		
	1983/84	92	176		
	1984/85	-90	-18		
	1985/86	-17 (10)	-40 (11)		
	1986/87				
	Dollars per acre				
	2002	1979/80	-26	-49 (-18)	
1980/81		-16 (8)	-75 (24)		
1981/82		-35 (24)	-75 (96)		
1982/83		-10	-10		
1983/84		92	176		
1984/85		-90	-18		
1985/86		-17 (10)	-40 (11)		
1986/87					
Dollars per acre					
2003		1979/80	-26	-49 (-18)	
	1980/81	-16 (8)	-75 (24)		
	1981/82	-35 (24)	-75 (96)		
	1982/83	-10	-10		
	1983/84	92	176		
	1984/85	-90	-18		
	1985/86	-17 (10)	-40 (11)		
	1986/87				
	Dollars per acre				
	2004	1979/80	-26	-49 (-18)	
1980/81		-16 (8)	-75 (24)		
1981/82		-35 (24)	-75 (96)		
1982/83		-10	-10		
1983/84		92	176		
1984/85		-90	-18		
1985/86		-17 (10)	-40 (11)		
1986/87					
Dollars per acre					
2005		1979/80	-26	-49 (-18)	
	1980/81	-16 (8)	-75 (24)		
	1981/82	-35 (24)	-75 (96)		
	1982/83	-10	-10		
	1983/84	92	176		
	1984/85	-90	-18		
	1985/86	-17 (10)	-40 (11)		
	1986/87				
	Dollars per acre				
	2006	1979/80	-26	-49 (-18)	
1980/81		-16 (8)	-75 (24)		
1981/82		-35 (24)	-75 (96)		
1982/83		-10	-10		
1983/84		92	176		
1984/85		-90	-18		
1985/86		-17 (10)	-40 (11)		
1986/87					
Dollars per acre					
2007		1979/80	-26	-49 (-18)	
	1980/81	-16 (8)	-75 (24)		
	1981/82	-35 (24)	-75 (96)		
	1982/83	-10	-10		
	1983/84	92	176		
	1984/85	-90	-18		
	1985/86	-17 (10)	-40 (11)		
	1986/87				
	Dollars per acre				
	2008	1979/80	-26	-49 (-18)	
1980/81		-16 (8)	-75 (24)		
1981/82		-35 (24)	-75 (96)		
1982/83		-10	-10		
1983/84		92	176		
1984/85		-90	-18		
1985/86		-17 (10)	-40 (11)		
1986/87					
Dollars per acre					
2009		1979/80	-26	-49 (-18)	
	1980/81	-16 (8)	-75 (24)		
	1981/82	-35 (24)	-75 (96)		
	1982/83	-10	-10		
	1983/84	92	176		
	1984/85	-90	-18		
	1985/86	-17 (10)	-40 (11)		
	1986/87				
	Dollars per acre				
	2010	1979/80	-26	-49 (-18)	
1980/81		-16 (8)	-75 (24)		
1981/82		-35 (24)	-75 (96)		
1982/83		-10	-10		
1983/84		92	176		
1984/85		-90	-18		
1985/86		-17 (10)	-40 (11)		
1986/87					
Dollars per acre					
2011		1979/80	-26	-49 (-18)	
	1980/81	-16 (8)	-75 (24)		
	1981/82	-35 (24)	-75 (96)		
	1982/83	-10	-10		
	1983/84	92	176		
	1984/85	-90	-18		
	1985/86	-17 (10)	-40 (11)		
	1986/87				
	Dollars per acre				
	2012	1979/80	-26	-49 (-18)	
1980/81		-16 (8)	-75 (24)		
1981/82		-35 (24)	-75 (96)		
1982/83		-10	-10		
1983/84		92	176		
1984/85		-90	-18		
1985/86		-17 (10)	-40 (11)		
1986/87					
Dollars per acre					
2013		1979/80	-26	-49 (-18)	
	1980/81	-16 (8)	-75 (24)		
	1981/82	-35 (24)	-75 (96)		
	1982/83	-10	-10		
	1983/84	92	176		
	1984/85	-90	-18		
	1985/86	-17 (10)	-40 (11)		
	1986/87				
	Dollars per acre				
	2014	1979/80	-26	-49 (-18)	
1980/81		-16 (8)	-75 (24)		
1981/82		-35 (24)	-75 (96)		
1982/83		-10	-10		
1983/84		92	176		
1984/85		-90	-18		
1985/86		-17 (10)	-40 (11)		
1986/87					
Dollars per acre					
2015		1979/80	-26	-49 (-18)	
	1980/81	-16 (8)	-75 (24)		
	1981/82	-35 (24)	-75 (96)		
	1982/83	-10	-10		
	1983/84	92	176		
	1984/85	-90	-18		
	1985/86	-17 (10)	-40 (11)		
	1986/87				
	Dollars per acre				
	2016	1979/80	-26	-49 (-18)	
1980/81		-16 (8)	-75 (24)		
1981/82		-35 (24)	-75 (96)		
1982/83		-10	-10		
1983/84		92	176		
1984/85		-90	-18		
1985/86		-17 (10)	-40 (11)		
1986/87					
Dollars per acre					
2017		1979/80	-26	-49 (-18)	
	1980/81	-16 (8)	-75 (24)		
	1981/82	-35 (24)	-75 (96)		
	1982/83	-10	-10		
	1983/84	92	176		
	1984/85	-90	-18		
	1985/86	-17 (10)	-40 (11)		
	1986/87				
	Dollars per acre				
	2018	1979/80	-26	-49 (-18)	
1980/81		-16 (8)	-75 (24)		
1981/82		-35 (24)	-75 (96)		
1982/83		-10	-10		
1983/84		92	176		
1984/85		-90	-18		
1985/86		-17 (10)	-40 (11)		
1986/87					
Dollars per acre					
2019		1979/80	-26	-49 (-18)	
	1980/81	-16 (8)	-75 (24)		
	1981/82	-35 (24)	-75 (96)		
	1982/83	-10	-10		
	1983/84	92	176		
	1984/85	-90	-18		
	1985/86	-17 (10)	-40 (11)		
	1986/87				
	Dollars per acre				
	2020	1979/80	-26	-49 (-18)	
1980/81		-16 (8)	-75 (24)		
1981/82		-35 (24)	-75 (96)		
1982/83		-10	-10		
1983/84		92	176		
1984/85		-90	-18		
1985/86		-17 (10)	-40 (11)		
1986/87					
Dollars per acre					
2021		1979/80	-26	-49 (-18)	
	1980/81	-16 (8)	-75 (24)		
	1981/82	-35 (24)	-75 (96)		
	1982/83	-10	-10		
	1983/				

1/ Includes imports for re-export as refined sugar or in sugar-containing products; and small quantities of imports for polyhydric alcohol and specialty sugars. Exports for 1987 include 177,000 tons of CCC held sugar shipped to China.

2/ Actual Oct. 1 to Sep. 30 fiscal year imports, reflecting quota transfers (plus or minus) between fiscal years, and small quantities of unfilled sugar quota allocations. Restrictive sugar quotas started May 5, 1982.

SOURCE: Interagency Estimates Committee.

Table 9.--U.S. crop returns to management and risk

	Crop year	
	1984	1985 1986
	Dollars per acre	
Barley	-26	-43 -49 (-18)
Corn	-16 (8)	-24 (11) -75 (24)
Cotton	-35 (24)	-38 (62) -75 (96)
Soybeans	-10	-7 -10
Sugarbeets	92	107 176
Sugarcane	-90	-96 -18
Wheat	-17 (10)	-28 (3) -40 (11)

Note: Parentheses indicate returns inclusive of government program payments.

Source: ERS, USDA.

Table 12.--U.S. imports of selected sugar-containing products,
1981, 1985-1987

Product category	1981	1985	1986	Jan. - Sept. 1986	1987
1,000 Short tons of product					
Sweetened chocolate	14.9	54.0	60.7	47.5	49.0
Sweetened cocoa and confectionery coatings	1.2	16.7	7.3	5.8	4.4
Candy and confectionery	57.6	140.6	146.1	117.2	101.6
Pastries, cakes, and puddings	52.9	128.4	140.4	112.1	99.7
Edible preparations NSPF	48.9	174.0	203.1	146.9	146.7
Miscellaneous foods, including gelatin	35.3	59.9	59.5	47.4	59.1
Total	210.8	573.6	617.1	476.9	460.5

Source: Bureau of Census, Department of Commerce.

Table 13.--U.S. sugar deliveries to industrial and nonindustrial users,
1981, 1986 and Jan.-Sept. 1986 and 1987

Item	Calendar year		Jan.-Sept.		Fiscal year (FY)		Percent change, FY 1986 to FY 1987
	1981	1986	1986	1987	1986	1987	
	Thousand short tons, refined ^{1/}						
Bakery/cereal	1,279	1,432	1,083	1,133	1,445	1,482	2.6
Confectionery	963	1,051	778	855	1,049	1,127	7.4
Processed Foods	474	387	313	318	391	392	0.3
Ice cream/Dairy	451	447	346	353	447	453	1.3
Other	571	443	316	396	435	522	20.0
Beverage	1,829	266	210	163	274	219	-20.1
Nonindustrial	3,389	3,075	2,239	2,260	3,080	3,095	0.5
Total, includ- ing non-food	9,082	7,239	5,388	5,585	7,250	7,437	2.6

^{1/} U.S. deliveries data do not include Hawaii. To convert to raw value, multiply by 1.07.

SOURCE: Sugar Market Statistics, NASS and ERS, USDA.

Table 14.--U.S. caloric sweeteners use, 1980, 1985 to 1988 ^{1/}

Calendar year	Sugar, raw	Sugar, refined	HFCS	Total corn sweeteners, including HFCS, glucose, and dextrose	Honey and edible sirup	Total
Pounds per capita, dry basis						
1980		83.6	19.1	40.2	1.2	125.0
1985		63.0	45.0	66.6	1.4	131.1
1986		60.2	45.8	67.3	1.4	129.0
1987		61.0	47.2	68.6	1.4	131.1
1988 ^{2/}		61.1	47.9	69.4	1.4	131.9
Million short tons, dry basis						
1980	10.189	9.522	2.180	4.583	0.137	14.242
1985	8.072	7.544	5.390	7.969	0.168	15.681
1986	7.786	7.277	5.530	8.133	0.169	15.579
1987	7.965	7.444	5.750	8.370	0.171	15.985
1988 ^{2/}	8.045	7.519	5.900	8.541	0.172	16.232

^{1/} Includes sugar in blends/mixtures but not sugar in other imported sugar-containing products. Includes HFCS imports.

^{2/} Forecast.

SOURCE: ERS, USDA.

Table 15.--U.S. sugar supply
and use, fiscal 1986, 1987, and 1988

Description	1985/86	1986/87	1987/88
1,000 short tons, raw value			
Beginning stocks 1/	1,759	1,652	1,514
Total production	6,019	6,886	7,045-7,350
Beet sugar	2,989	3,653	3,745-3,950
Cane sugar	3,030	3,233	3,300-3,400
Total offshore receipts	2,378	1,884	NA
Quota sugar	1,850	771	NA
Quota shortfall	--	--	NA
Quota transfer	--	466	229
Quota-exempt for reexport	467	600	450
Quota-exempt for polyhydric alcohol	29	35	35
Total foreign	2,346	1,872	NA
Puerto Rico	32	12	25
Total supply	10,156	10,422	NA
Total exports	507	597	405
Quota-exempt	463	500	350
Puerto Rico	55	55	55
Export adjustment	-11	42	--
CCC disposal	127	177	0
Refining loss adjust.	58	30	50
Stat. adjust. 2/	13	106	0
Total deliveries	7,799	7,998	8,100
Transfer to sugar-containing products for export	27	100	100
Transfer to polyhydric alcohol	28	35	35
Deliveries for food and beverage use	7,744	7,863	7,965
Total use	8,504	8,908	8,555
Ending stocks 1/	1,652	1,514	NA
Million			
Population	241.0	243.3	245.6
Pounds, refined			
Per capita sugar deliveries	60.1	60.4	60.6
Percent			
Ending stocks/total use	19.4	17.0	NA

1/ Stocks in hands of U.S. primary distributors and CCC. 2/ Calculated as a residual. Largely consists of invisible stocks change of wholesalers, retailers, and industrial users.

SOURCE: Data are from NASS, Sugar Market Statistics. Beginning fiscal 1983, imports based on Customs data for quota sugar and company data for quota-exempt sugar; exports based on Census data. Estimates are from Interagency Estimates Committee.

ANNUAL AGRICULTURAL OUTLOOK CONFERENCE

United States Department of Agriculture
Washington, D.C.



Outlook '88, Session #11

For Release: (Wednesday), December (2), 1987

WORLD PERSPECTIVE

Helmut Ahlfeld
Managing Director, F.O. Licht

Ladies and Gentlemen,

I have been given 15 minutes to cover what the program calls world perspective. But the world sweetener market has become so complex that it would need at least an hour to cover all aspects. However, as I am not one of the privileged members of the Soviet Politbureau who are usually allowed to speak for at least three hours I will try to cut myself short and cover only those aspects which I think to be most important.

World sugar analysts are at present split into two groups. The first group are the so-called "cyclicalists" and the second group the so-called "structuralists". In both camps are highly educated economists, who are utterly convinced that they are the only persons with a little common sense.

As you all know world sugar prices are highly volatile and the extent of sugar price fluctuations surpasses that of most other commodities. The fluctuations emanate from cyclical imbalances between supply and demand, largely induced by supply variations. Sharp price increases tend to induce overexpansion of

output, thus ushering in new surplus phases and low prices. A corresponding contraction in output is prevented by the downward inflexibility of production. Short periods of high prices therefore tend to be followed by long periods of low prices.

The cyclicalists believe that the cyclical nature of the world sugar market is still intact and that neither the new sweeteners such as aspartame and HFCS nor the emergence of the Brazilian alcohol industry have fundamentally changed the sugar price cycle.

Price peaks have occurred in 1951, 1957, 1963, 1974 and 1980. Apart from the 11 year gap in the 1960's the average gap between price peaks has been six years. Following this pattern, prices should have peaked in 1986 which was not the case but the protagonists of the cycle theory are confident that the peak is only slightly delayed and they have been forecasting higher prices for the next two years and a fully grown boom for 1990. 1)

The structuralists are more pessimistic and argue that the structural changes which have occurred in the sugar market during the past decade make it unlikely that there will be a price rise comparable to the last two surges in sugar prices in 1974 and 1980. 2)

1) J. Fry, Sweetener Production, Consumption and Price Cycles 1987/1990, Sugar y Azucar, April 1987, p. 14

2) A. C. Hannah, The Sugar Cycle, Structural Changes and International Sugar Agreements, F. O. Licht, International Sugar Report, No. 14, 21 May 1987, pp. 213-217

Before commenting in greater detail on the consequences of the structural change that has taken place I would like to review briefly where we stand now and what we can expect this year.

There were quite a number of analysts who were fairly optimistic about prospects for the world market when we entered 1986/87. It was hoped that after the fall in stocks of 2.4 million tonnes in 1985/86 there would be a further reduction of 3.5 million tonnes the following year. It was believed that the improvement in the world statistical position for sugar would lead to higher prices and that the long-term phase of low prices was about to end. But the sugar year 1986/87 was again a year of unfulfilled expectations. Stocks fell only marginally to 37.1 million tonnes from 37.9 million tonnes the previous year, while prices through 1986/87 were still suffering as they have been for so long from the effect of the massive over-supply in 1981/82 and 1982/83 which followed the very high prices attained in the latter months of 1980. The question which arises from the poor price performance in 1986/87 is whether the expected upturn in prices has only been delayed by good weather in key growing areas or whether sugar is in for a long and bitter siege.

A cursory glance at the prospects for 1987/88 does generate some optimism that prices will improve to some extent. The production outlook has been adversely affected by unseasonably cold and wet weather in North/West Europe and abnormally hot and dry weather in South East Europe, along with the late arrival of

monsoon rains in India and Indonesia. This, according to our first estimate of the world sugar balance in 1987/88, could reduce production to 103.5 million tonnes compared to 103.9 million tonnes the previous year. Consumption in the same year is estimated to rise to 105 million tonnes, which would reduce closing stocks to 34.7 million tonnes or 32.9 per cent of consumption. Although this would still be above the 28 per cent recorded in the critical years 1979/80 and 1980/81 it must not be overlooked that the ratio has been coming down all the time since its peak of 41.41 per cent in 1982/83. On the assumption that most people, at least subjectively, think of a boom in sugar prices as meaning prices of at least 20 cents per lb sustained for a minimum period of let us say 6 to 12 months the expected stock/consumption ratio may still be too high for such a boom. But even the most cautious analysts would conclude that higher prices will ensue from these figures and to use the imaginative terminology created by the chief economist of the International Sugar Organization in London a "boomlet" where prices rise to 10 cents per lb and then fall away or even a "boomette" where prices rise to about 15 cents per lb and then fall away is clearly on the cards. This will bring the cyclicalists back on the stage and make them at least the temporary winners.

But the great unresolved question is how will producers and consumers or should I say importers, as the price we are talking about is the price of traded sugar, react to higher prices. It is exactly here where the structural changes which have taken place during the past decade come into play.

Let us first concentrate on the supply side. Two or probably three factors have reduced the average response time to higher world prices. The most important factor which has radically changed the supply side is the emergence of the EEC, a beet sugar producer, as an important exporter to the world market. The increase in the share of beet sugar in world trade has reduced the average time taken by producers to respond to increases in world prices as the EEC can increase its production very significantly in about an eight month period, provided the price signals generating a production response occur before the land has been sown to other crops. Another factor which has also affected the supply response of exporters is the development of the alcohol industry in Brazil. After the rapid development of this industry only about 40 per cent of the cane produced is used for sugar production. Economists argue endlessly about whether some of this cane could or would be switched to sugar if prices rose substantially. Obviously the two industries are separate and share only the same raw material, but a substitution cannot be ruled out.

There is another factor that may effectively kill off a "boomette" or even "boomlet" and that is increased efficiency within the sugar industry in the larger exporting countries. The drop in world prices had the positive effect of disclosing unnecessary costs and all sorts of inefficiencies in sugar production. As a result many sugar exporters have lowered their US\$ production costs since 1980. Inefficient factories have been rationalized, organisational changes to improve efficiency have been made and agricultural yields have often improved, even though the use of inputs like fertilizer has fallen. Hence a "boomette" may convince the more efficient exporters to gear up their export production. Many producers have privately suggested that they can make

a living with prices at 7, 8 or 9 cents per lb, basis New York.

However, producers can only gear up production within a short period of time if they can take advantage of under-utilized processing capacity. The cyclicalists have argued that by no later than 1988/89 unutilized capacity will be insufficient to forestall further stock drawdown, which should make a boom inevitable, while others estimate that around the world there are still some 6 to 8 million tonnes of unused capacity. I have to say that our findings support the latter view. At first sight 6 to 8 million tonnes does not seem that much compared to current world production of more than 100 million tonnes but it represents more than one third of the free market for sugar and together with anticipated capacity expansion should be enough to cover projected demand by 1991/92.

This brings us to the other side of the equation, namely demand. The recent structural change has not been confined to the supply side. In the early to mid 1970's around 65 per cent of imports, that is the demand that ultimately determines prices on the world market, went to developed importers and 35 per cent to developing importers. In 1986 the developed importers' share had fallen to 40 per cent, while the developing importers' share had risen to 60 per cent. The principal reason for this reversal is the US sugar policy, which has not only encouraged US sugar producers but also provided an umbrella under which the HFCS industry, so far the sugar industry's main competitor, could develop. HFCS has replaced sucrose in industry after industry and the losers of all this of course have been the foreign suppliers, who have seen their net share of the US market dwindle from 5.8 million short tons in 1977

to approximately 1.8 million tons in 1986. As you know the import quota for 1987 was set at slightly over a million tons, down 40 per cent from the 1986 quota, which was, as the Department of Agriculture has stated, the lowest level in nearly one hundred years.

The plight created by the US sweetener policy has been exacerbated by the policies adopted by the Japanese government. These have led to a reduction in imports since 1976 of some 25 per cent.

All this has led to a significant fall in imports by high income countries where price elasticity is low and foreign exchange availability is not a consideration. As a result demand for imported sugar has become much more price and income sensitive and we now have a market where growth or lack of it is increasingly determined by the economic situation in developing countries in relation to prices. In other words there is a greater sensitivity to price surges in the world market which limits the level to which prices could realistically be expected to climb.

All this does not mean that sugar is no longer a cyclical commodity but there have been forces at work which will most likely elongate the length of the cycle between peaks while at the same time the extent of the price peak to be expected in the future has been reduced.

From this it must be concluded that if prices should rise above 10 cents per lb in 1987/88 there will be irresistible pressure in the more efficient sugar

exporting countries to raise production and exports. This, together with the likely reaction on the import side, should generate sufficient additional supplies to kill off a full boom.

But there is always the danger of a series of weather induced production shortfalls. For this eventuality surplus stocks may no longer be high enough to prevent a fully grown boom. This would benefit producers of alternative sweeteners but would be a disaster for the sucrose industry. Prices in 1986/87 were a clear sign that there was still a surplus overhanging the market. Using the ISO method to calculate surplus stocks we have estimated that the 1987/88 season opened with a surplus of roughly 5.5 million tonnes compared to more than 10 million tonnes only three years ago. Though still sufficient to prevent any large rise in prices, this is not an enormous quantity especially as another drawdown of surplus stocks is forecast for 1987/88. We must also identify who is holding these stocks and in this respect the picture is even more worrying. It is the size of the surplus stocks in exporting countries which ultimately determines price as it is this part of the surplus which will come onto the market if prices rise. Exporters' surplus stocks have fallen from nearly 6 million tonnes three years ago. to 2.6 million tonnes at the beginning of 1987/88. This may be more than sufficient in normal years but hardly enough for a series of weather induced production shortfalls. Hence, unknowingly we may have entered a phase of greater volatility and insecurity which could determine the ultimate fate of the world sugar industry.

On the assumption of world market prices in the range of 11 to 12 cents and an optimistic but defensible assumption regarding income growth and financial

stability it has been estimated that consumption during the next five years will rise by 7.5 to 8.5 million tonnes. Taking our latest estimate of 103.9 million tonnes for 1986/87, this would bring world consumption to 111-112 million tonnes in 1992 or at most 8 million tonnes above current production. Taking into account that there are at present 6 to 8 million tonnes of unused capacity and the further assumption that capacity world-wide will grow by one million tonnes per year, capacity should be high enough to cover projected demand for 1992. But due to the constant fall in surplus stocks the world sugar industry becomes more and more vulnerable to weather induced supply shocks. If the world price were to boom let us say by 1988/89 the sweetener landscape would be substantially different. Viton in his excellent analysis before the ISO Consumption Committee earlier this year has rightly pointed out that "technically, culturally and organizationally the world is poised for a major leap in consumption of high fructose and high intensity sweeteners. All that is needed is a powerful price stimulus." Probably with an eye on their new product "crystalline corn fructose" the corn wet milling industry already calls for freedom to compete on an equal footing with traditional sweeteners. This opens the long-term possibility that crystalline fructose will enter trade with the full backing of a powerful grains industry and possibly, for internal political reasons, a powerful government. This should give sugar exporters and producers more than enough food for thought.

The immediate effect of a price boom with prices above 30 cents over a few years would be a significant decline in sugar consumption, in part because of increased use of low calorie sweeteners and liquid and crystalline high

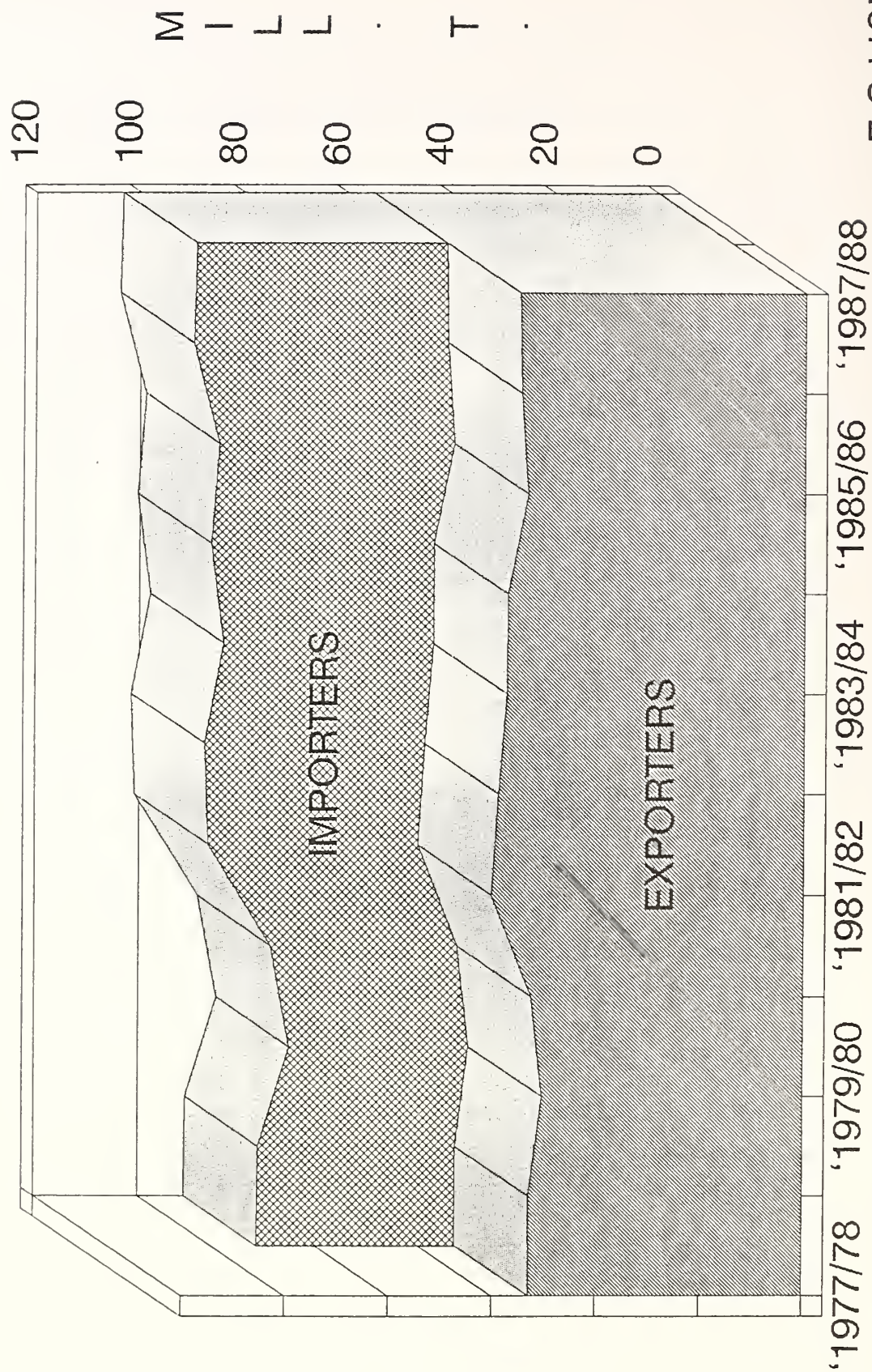
fructose. Many of the non-food uses for sugar would decline or disappear. What is even worse is that a large part of the long-term negative effects would be irreversible. Once the low calorie sweeteners get going, there will be no way to stop them. The long-term adverse consequences of a price boom should indeed provide a compelling reason for sugar producers to move quickly to establish an International Sugar Agreement able to influence the statistical position. However, the members of the current administrative Agreement seem to be more preoccupied with internal financial questions than inspired by the will to negotiate a fully functioning Agreement with economic clauses. This could prove to be a serious mistake in a few years hence as the creation of a buffer stock or better reserve stock to cut off price peaks could prove to be vital for the survival of the world sugar industry as it is now. To cut off price peaks may become one of the main objectives of an ISA with economic clauses and it is not too late for an ISA to play this role. But there is certainly no time for complacency nor would it be wise to shy away from sacrifices as more is at stake than a few hundred thousand tonnes of probably even fictitious export entitlements.

WORLD SUGAR BALANCE

	S e p t e m b e r / A u g u s t				
	<u>1987/88</u>	<u>1986/87</u>	<u>1985/86</u>	<u>1984/85</u>	<u>1983/84</u>
	Estimate	(1000 tonnes, raw value)			
Initial stocks	37 069	37 910	40 262	39 838	39 052
Production	103 507	103 905	98 940	100 430	97 997
Imports	27 378	28 288	28 396	28 402	29 111
Total	167 954	170 103	167 598	168 670	166 160
Consumption	105 431	103 924	100 289	98 424	96 214
Exports	27 877	29 110	29 399	29 984	30 108
Final stocks	34 646	37 069	37 910	40 262	39 838
+/- 1000 tonnes					
Production	- 398	+ 4 965	- 1 490	+ 2 433	- 2 625
+/- per cent	- 0.38	+ 5.02	- 1.48	+ 2.48	- 2.61
+/- 1000 tonnes					
Consumption	+ 1 507	+ 3 635	+ 1 865	+ 2 210	+ 1 915
+/- per cent	+ 1.45	+ 3.63	+ 1.90	+ 2.30	+ 2.03
Stocks in per cent of Consumption	32.86	35.67	37.80	40.91	41.41

	S e p t e m b e r / A u g u s t				
	<u>1982/83</u>	<u>1981/82</u>	<u>1980/81</u>	<u>1979/80</u>	<u>1978/79</u>
	(1000 tonnes, raw value)				
Initial stocks	33 391	25 583	25 935	31 664	30 541
Production	100 622	100 917	88 727	85 099	91 010
Imports	29 212	31 208	29 019	28 613	26 276
Total	163 225	157 708	143 681	145 376	147 827
Consumption	94 299	92 203	89 882	90 147	89 286
Exports	29 874	32 114	28 216	29 294	26 877
Final stocks	39 052	33 391	25 583	25 935	31 664
+/- 1000 tonnes					
Production	- 295	+12 190	+ 3 628	- 5 911	- 195
+/- per cent	- 0.29	+ 13.74	+ 4.26	- 6.50	- 0.21
+/- 1000 tonnes					
Consumption	+ 2 096	+ 2 321	- 265	+ 861	+ 4 103
+/- per cent	+ 2.27	+ 2.58	- 0.29	+ 0.96	+ 4.82
Stocks in per cent of Consumption	41.41	36.21	28.46	28.77	35.46

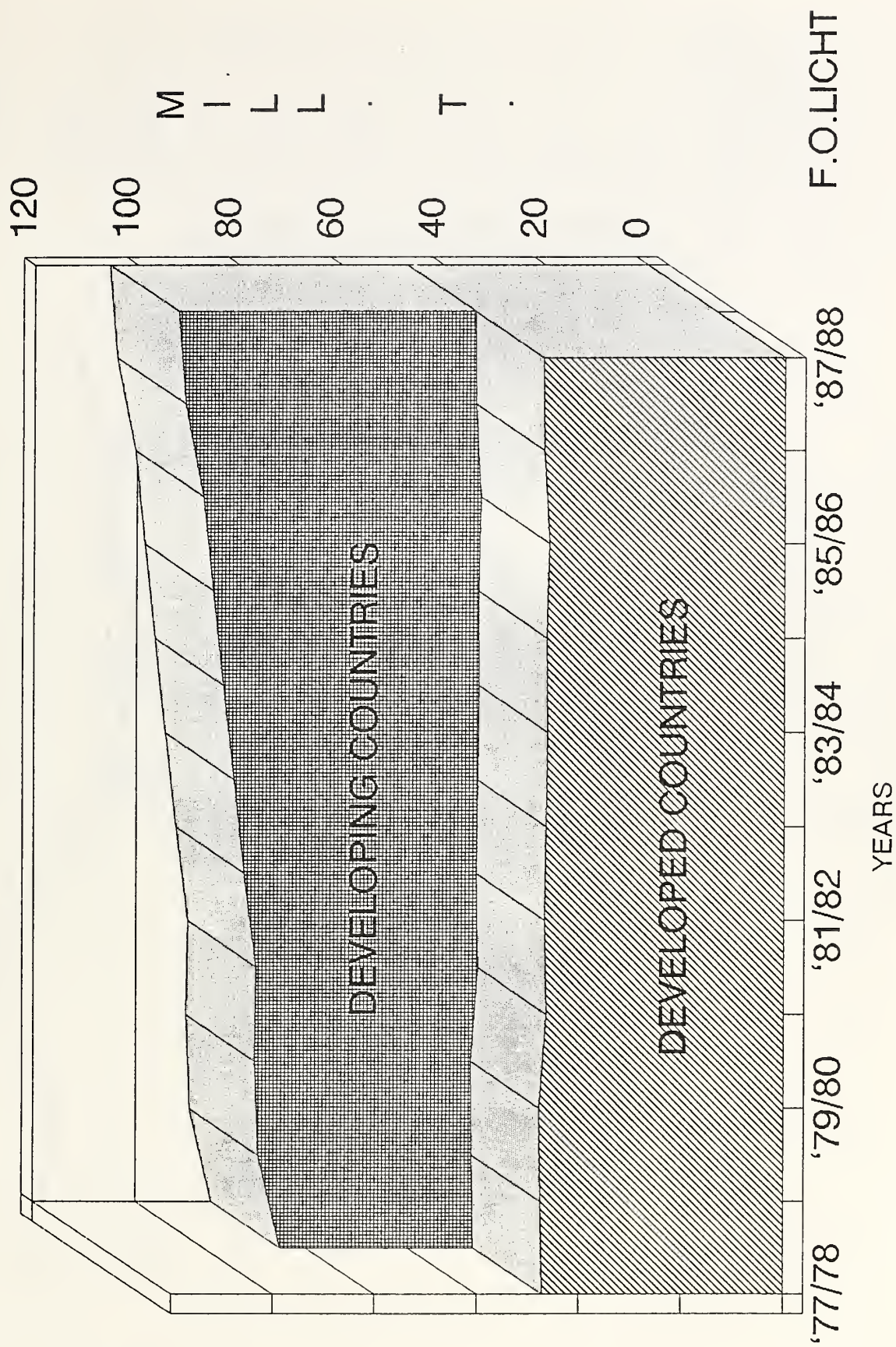
WORLD SUGAR PRODUCTION MILL. T. RAW VALUE



F.O.LICHT

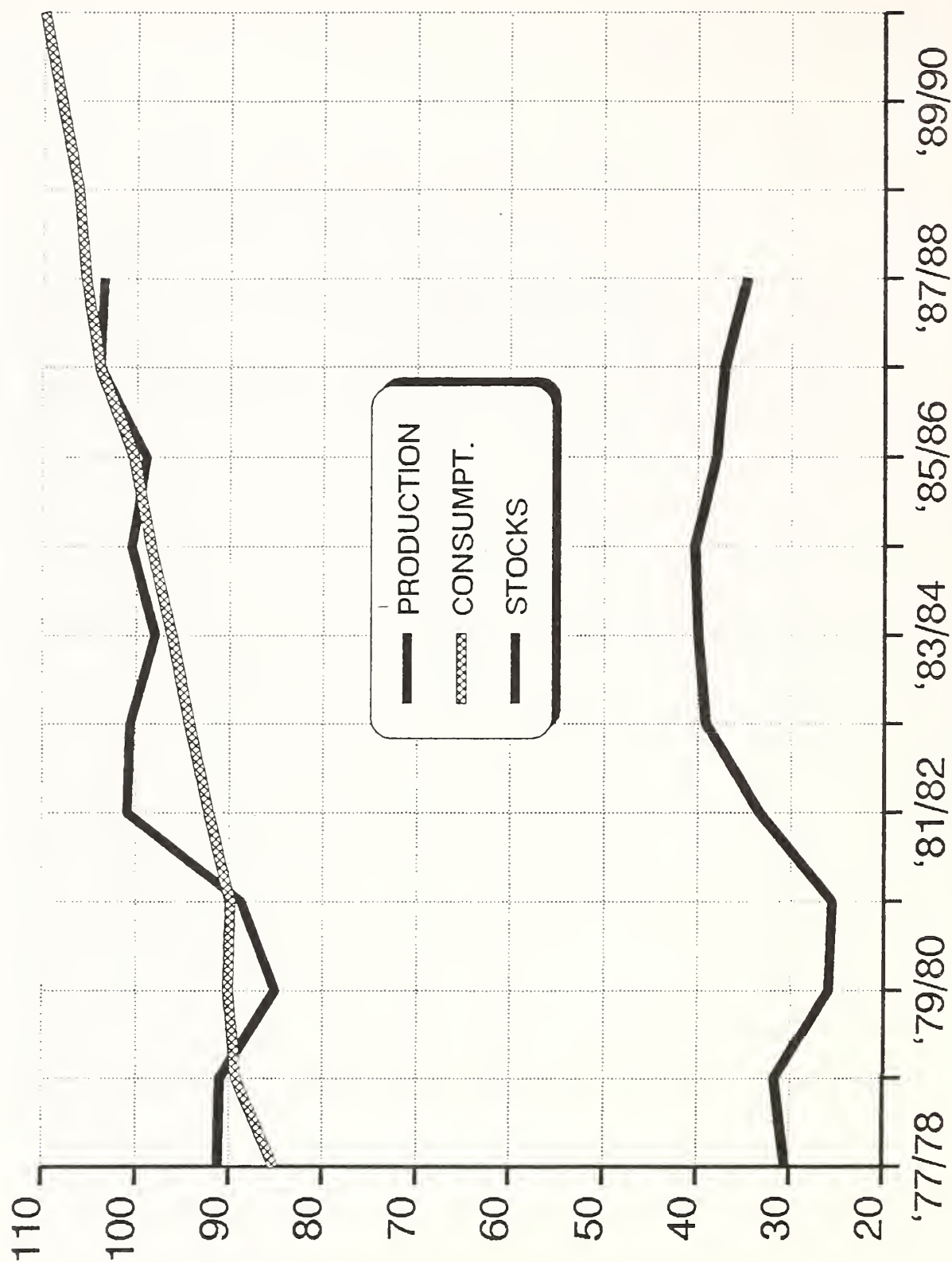
YEARS

WORLD SUGAR CONSUMPTION MILL. TONNES , RAW VALUE



WORLD SUGAR BALANCE

MILL. T., RAW VALUE

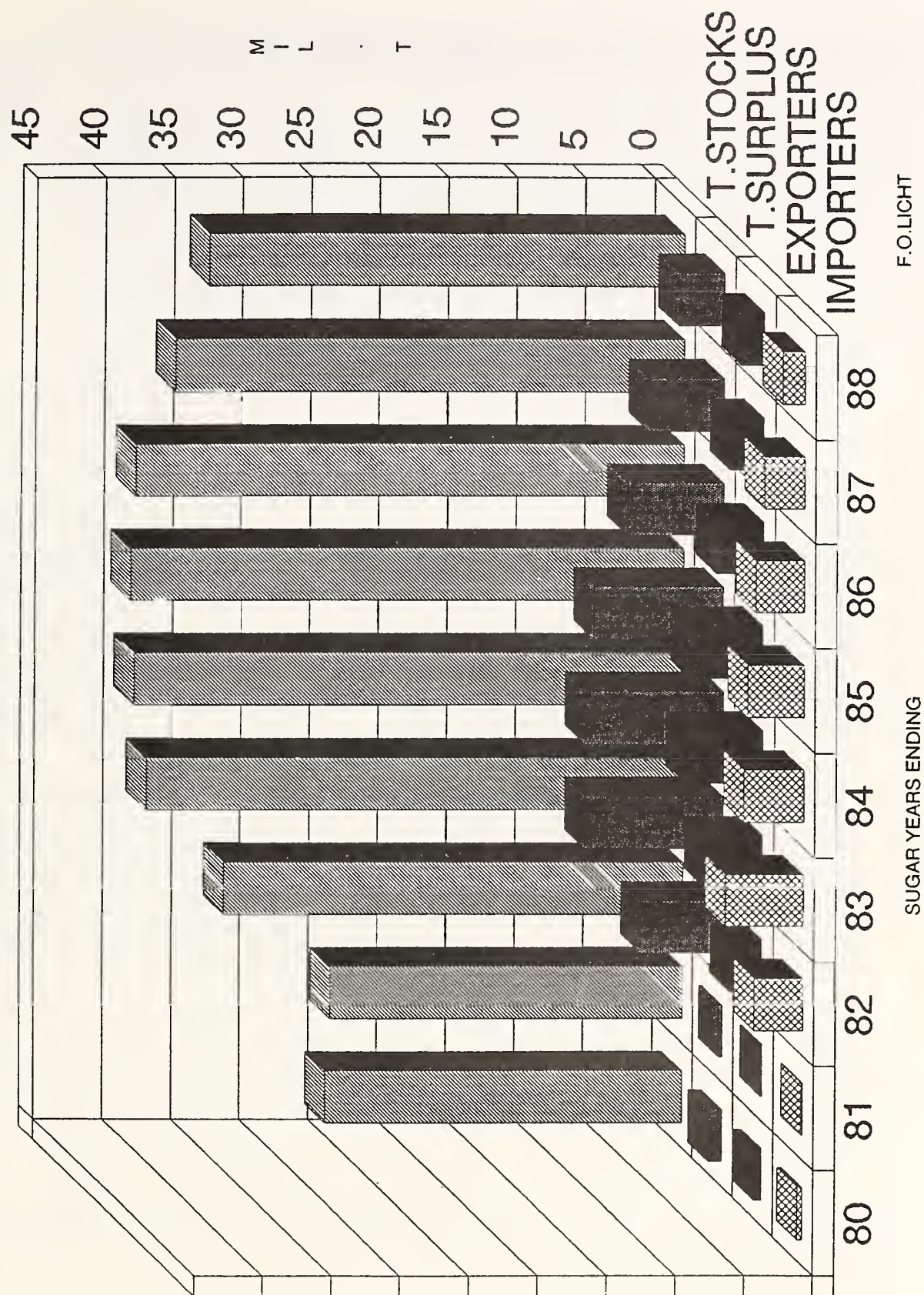


YEARS

MILL. T.

WORLD SURPLUS / DEFICIT STOCKS

MILL. T. RAW VALUE



ANNUAL AGRICULTURAL OUTLOOK CONFERENCE

United States Department of Agriculture
Washington, D.C.



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A CHANGING SWEETENER MARKET IN THE U.S.

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I. INTRODUCTION

The United States is the world's largest and most dynamic market for sweetened foods and drink. Within the sweetener market, competition among the various sweeteners is determined by traditional economic factors: price, quality and service. In addition, competition is affected by government regulation and by the ebb and flow of consumer tastes such as the current trend in favor of "diet" foods and beverages. Shifting trends, together with the constant pressure for reduced cost, have stimulated an unending search for new and improved sweeteners, and modern food technology has responded with a number of relatively new sweetener products during the past two decades.

As a result of the expanding variety of sweeteners and government regulation, the U.S. sweetener market has become highly dynamic and intensely competitive during the 1980's. The dynamic nature of the U.S. sweetener market is due in large part to the ability of processors of sweetened foods or beverages to shift readily from one type of sweetener to another whenever price, quality, taste or government edict indicates a marketing advantage might be achieved by such a shift.

Two of the major changes in the U.S. sweetener market which have occurred during the past decade will be examined in this paper. The first is the relative shift from cane to beet sugar during the 1980's which has resulted from the U.S. Sugar Program's price incentives and restrictions on imported cane sugar. Connected with this shift are the changing regional supply/demand balances and the consequent changes in the interregional flows of sugar. The second major change concerns the growth of the beverage sector relative to other sweetened foods -- partly as a result of less expensive ingredients and partly due to the "diet" trend.

II. CHANGES IN THE DOMESTIC SUGAR MARKET

The U.S. farm bills of 1981 and 1985 provided higher domestic sugar price supports for both sugarbeet and sugarcane farmers. The sugar section in the 1985 farm bill stabilized the raw sugar loan rate at 18.00 cents for the 1986-1990 period.¹ The 18.00 cent level has stimulated domestic beet and cane acreage increases. Larger domestic sugar output combined with declining consumption has resulted in lower cane sugar imports.

Growth in Domestic Beet and Cane Acreage

Chart 1 illustrates the changes in beet acreage during the 1975-1987 period with projections for 1988-1990. Beet acreage fell from 1.5 million acres in 1975 to approximately 1.03 million in 1982 as a result of low U.S. sugar prices. Since 1982, sugar beet acreage has risen to 1.25 million -- a 21 percent increase. The largest percentage jump occurred in Michigan/Ohio (62%) and the smallest in the Red River Valley (7%).

Chart 2 depicts the changes in domestic cane acreage. Cane acreage fell from 735,000 in 1975 to a low of 684,000 in 1980, stabilized near 700,000 in the 1981-84 period and then grew to 775,000 in 1987 -- an 11 percent increase over 1984. Florida acreage has risen 40 percent -- from 285,000 in the mid-1970's to 370,000 in 1984 and then to 400,000 in 1987. Acreage has been relatively stable in Louisiana and Texas -- dropping after freezes and then rebuilding. Hawaiian acreage has steadily declined from 100,000 to approximately 80,000.

U.S. Sugar Production and Consumption, 1975-1990

Chart 3 presents historical production and consumption data on a fiscal year basis for 1975-1987 with projections for 1988-1990. During the 1970's production peaked just below 7.00 million STRV in 1976 following the price spike of 1974/5. For the next decade, sugar output fluctuated around 6.00 million. Acreage and yield increases have and will result in a rise in sugar production to 6.80 and 7.30-7.40 million in 1987 and 1988, respectively. Extraordinary beet and cane yields are partly responsible for the record output expected in 1988. Barring weather problems, U.S. sugar production will fluctuate in the 7.00-7.40 million STRV range during 1989 and 1990.

¹ Gramm-Rudman lowered the loan rate in 1987 by just over 4 percent and will lower the rate in 1988 as well.

CHART 1
U.S. SUGAR BEET ACREAGE
1975 - 1990

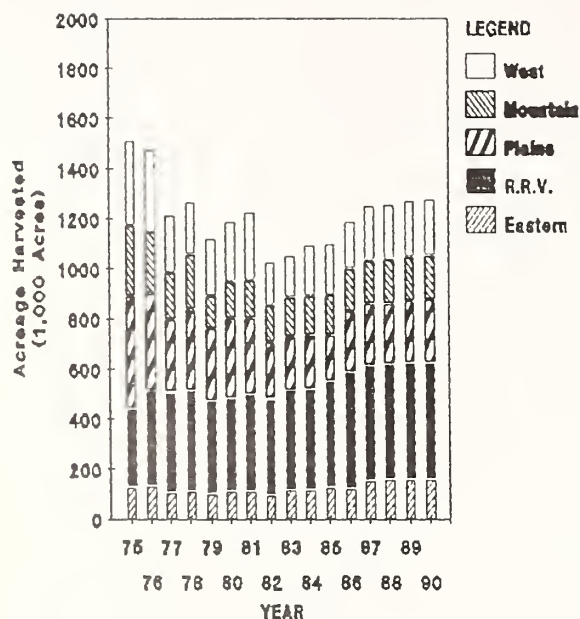


CHART 2
U.S. SUGAR CANE ACREAGE
1975 - 1990

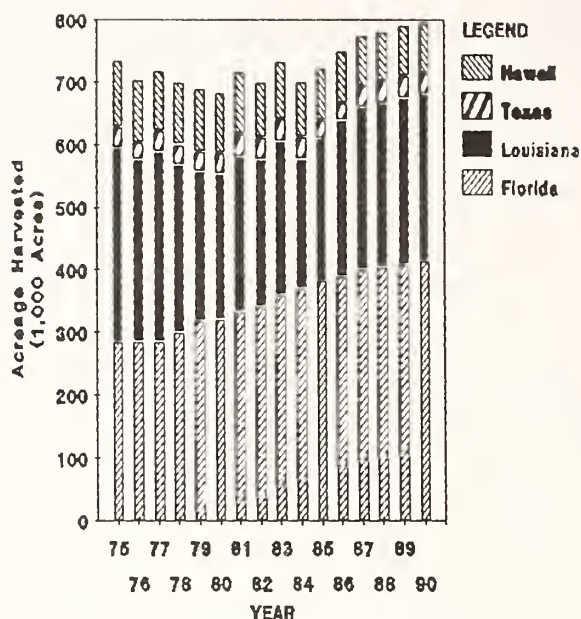
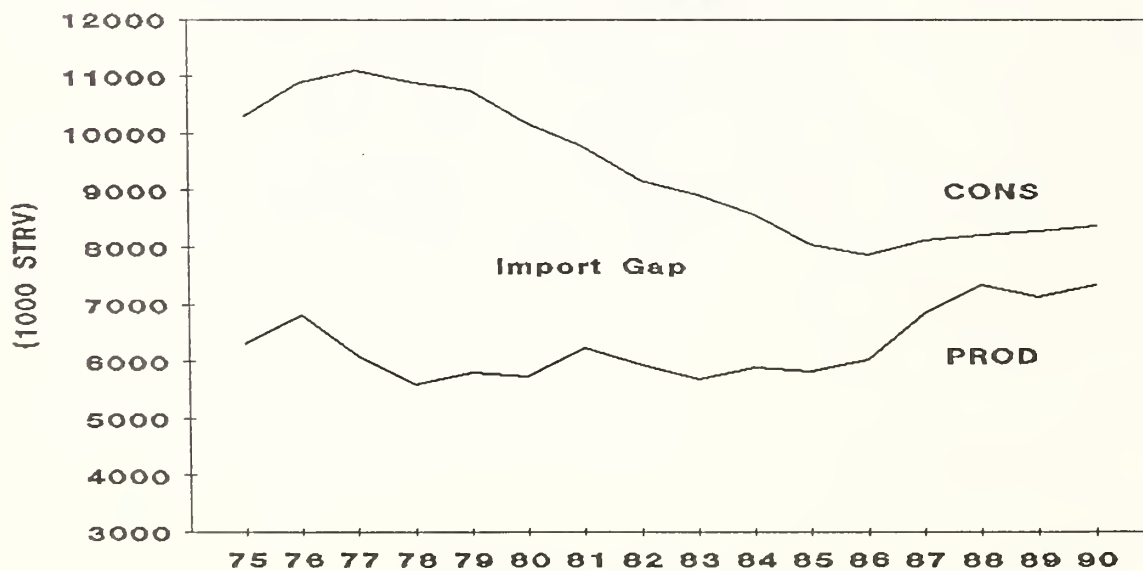


CHART 3
U.S. SUGAR
PRODUCTION & CONSUMPTION
1975 - 1990



U.S. consumption fell from approximately 11 million STRV in 1977 to less than 8 million in 1986. The shift from sugar to HFCS was responsible for the 3 million ton decline. The conversion process ended in 1986 and sugar usage increased 3 percent in fiscal 1987. Consumption is forecasted to increase at a 1 percent rate in 1987-1990.

The Import Gap (Chart 3)

During the period under review, the production-consumption gap in the U.S. peaked near 5 million tons in 1978 and then declined steadily to 1.2-1.3 million in 1987. The gap will fall further to 0.8-0.9 million in 1988 and will probably return to 1.0-1.1 million in 1989-1990 barring extraordinary U.S. sugar yields.

Regional Supply/Demand Balances, 1980-1988 (Chart 4)

The decline in U.S. consumption and imports of raw cane sugar combined with increases in domestic beet and cane output have had different effects on regional supply/demand balances.

The data in Chart 4 represents the difference between white sugar production and consumption in the major consuming regions of the U.S. (New England and the Middle Atlantic regions are combined.)

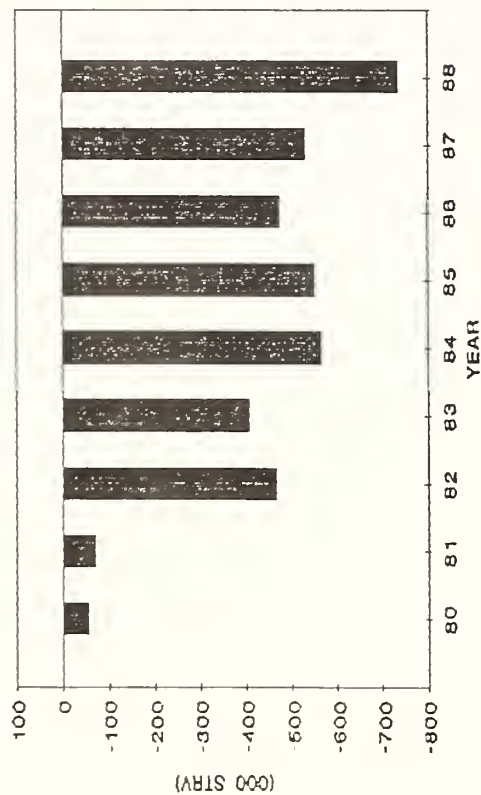
During the 1980's the Northeast and North Central regions of the U.S. have been deficit areas. Prior to 1982, the Northeast region imported and refined enough raw cane sugar to satisfy demand. A refinery closure in 1981 and declining raw sugar imports during the 1980's turned the Northeast region into a progressively larger net importer from other U.S. regions as the decade progressed. Net imports in the region increased from less than 0.1 million to the 0.5 million level during the 1982-1987 period and net imports will probably increase to more than 0.7 million in 1988 if an additional refinery is closed.

For the North Central region, the opposite has happened. During the early 1980's, net imports totaled 1.6 to 1.9 million tons. By 1986-1987, North Central's deficit had fallen to 1.2-1.3 million. Declining consumption combined with increases in beet sugar production are responsible. Record beet sugar yields in 1987/8 will lower the deficit to 1.1 million.

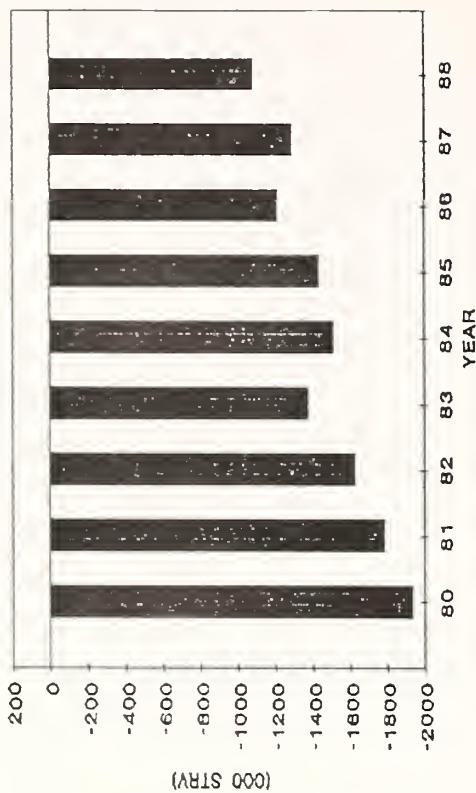
The surplus sugar regions in the U.S. are the South and the West. Southern white sugar output is produced from both domestic and imported cane sugar. Historically, the South has exported between 0.8 and 1.0 million tons to other parts of the U.S. Given the large increases in domestic sugar production between 1986 and 1988 and the consequent reductions in the sugar import quota, Southern exports will fall from 0.8 million in 1986 to 0.3-0.4 million in 1988.

CHART 4

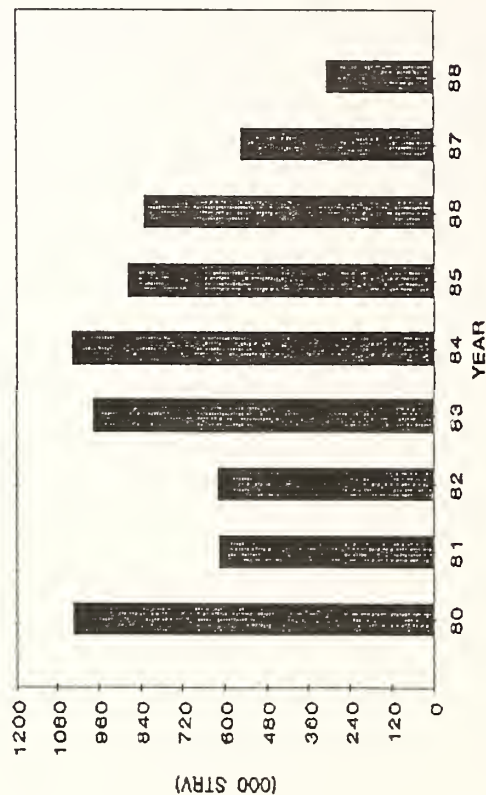
NORTHEAST
SUGAR SUPPLY/DEMAND BALANCE
1980 - 1988



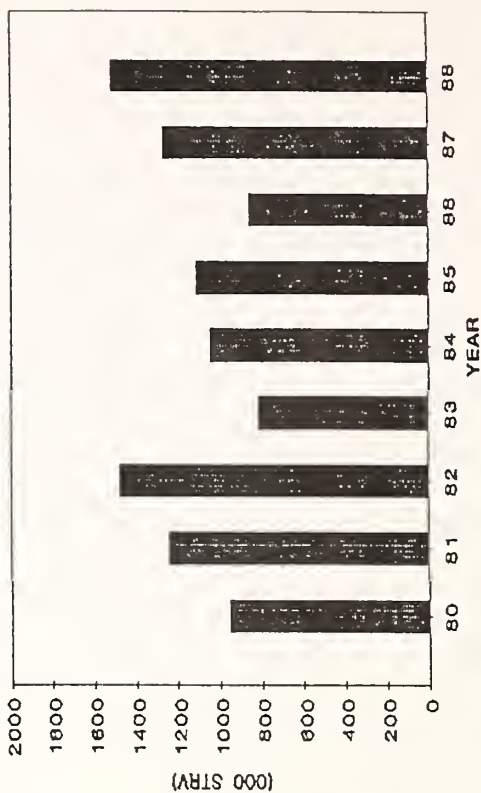
NORTHCENTRAL
SUGAR SUPPLY/DEMAND BALANCE
1980 - 1988



SOUTH
SUGAR SUPPLY/DEMAND BALANCE
1980 - 1988



WEST
SUGAR SUPPLY/DEMAND BALANCE
1980 - 1988



The West has always been a major exporter of white sugar given its large beet acreage and Hawaiian cane. A bumper beet crop in 1982 combined with a large supply of refined cane sugar resulted in a surplus of almost 1.5 million tons. Generally, however, the West's surplus has varied between 0.8 and 1.2 million. The surplus will increase once again to 1.5 million tons in 1988, however, in spite of a major reduction in refined cane sugar. Extraordinary beet yields in 1987/8 has produced a bumper crop and white sugar exports are forecasted at 1.52 million.

In 1987, the Northeast and North Central deficits totaled 0.53 and 1.30 million, respectively. The West exported 1.28 and exports from the South totaled 0.55 million. Total 1988 net import requirements for the two deficit regions are forecasted at 1.83 million again. However, the West will likely export 1.52 million which leaves 0.31 million for the South.

Relative Shift from Beet to Cane (Charts 5 and 6A-6D)

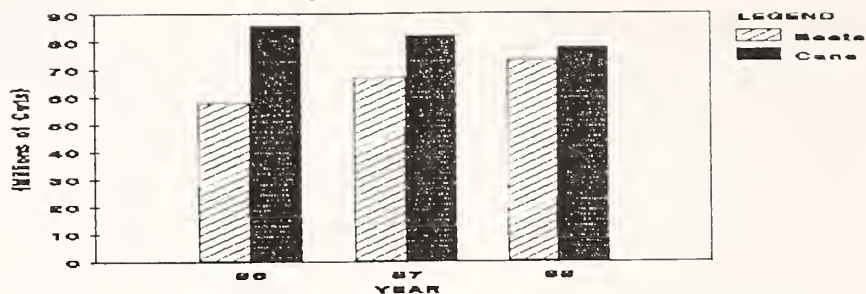
The decline in U.S. sugar consumption combined with increases in domestic production (both beet and cane) has forced the U.S. government to reduce the amount of imported raw cane sugar in order to maintain sugar prices at legally mandated levels. Chart 5 presents 1986-1988 beet and cane sugar delivery estimates and forecasts for the U.S. Cane sugar deliveries will fall from 86.5 million cwts. in 1986 to an estimated 82.8 million in 1987 and the forecast for 1988 is a further drop to 78.5 million.

On the other hand, beet sugar deliveries will increase from 58.3 to 67.3 million cwts. between 1986 and 1987 and then to 73.8 million in 1988. In the early 1980's, beet sugar accounted for one-third of total deliveries. By 1986, the beet sugar proportion had risen to 40 percent. The 1988 forecast suggests that beet sugar usage in the U.S. will almost achieve parity with cane sugar as beet processor deliveries will account for 48 percent of total U.S. usage.

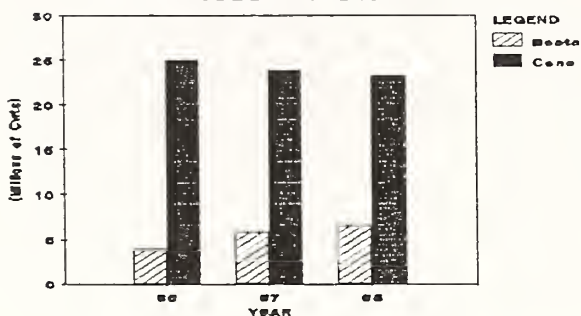
Chart 6A presents beet and cane sugar usage for the Northeast Region. Traditionally, the Northeast has been a cane sugar area as cane refiner deliveries accounted for more than 90 percent of the total during the early 1980's. However, beet sugar penetration into the Northeast market increased to 14 percent in 1986 and will total approximately 20 percent in 1987. Beet sugar deliveries will likely increase to the 22-23 percent range in 1988.

Beet sugar deliveries have dominated usage in the North Central region (see Chart 6B) accounting for 60-70 percent of all deliveries in the early 1980's. This percentage will rise above 75 percent in 1987 and to the 80-82 percent range in 1988. Beet

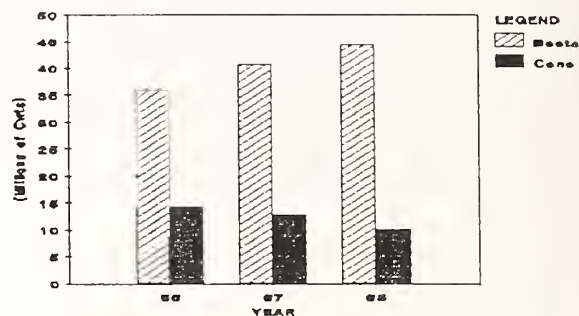
**CHART 5
TOTAL U.S. SUGAR DELIVERIES
BEET & CANE
1986 - 1988F**



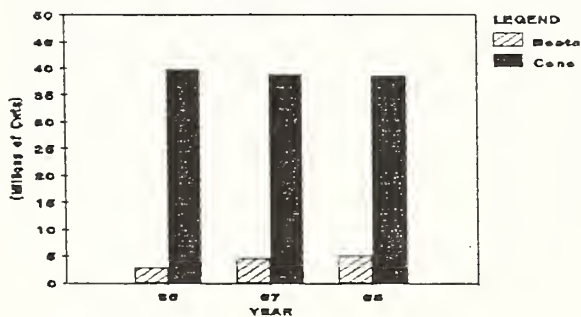
**CHART 6A
NORTHEAST SUGAR DELIVERIES
BEET & CANE
1986 - 1988F**



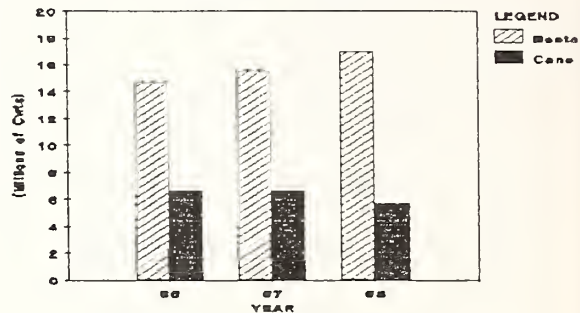
**CHART 6B
NORTH CENTRAL SUGAR DELIVERIES
BEET & CANE
1986 - 1988F**



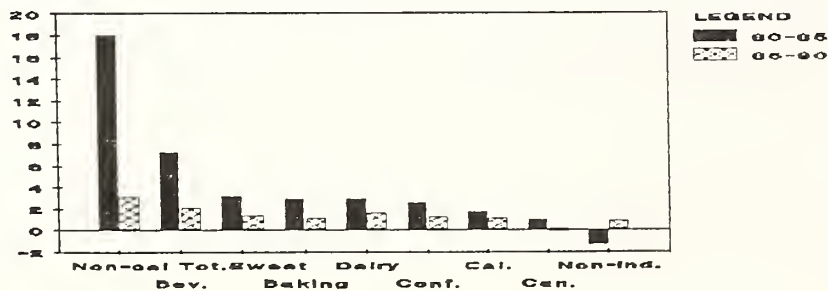
**CHART 6C
SOUTH SUGAR DELIVERIES
BEET & CANE
1986 - 1988F**



**CHART 6D
WEST SUGAR DELIVERIES
BEET & CANE
1986 - 1988F**



**CHART 7
SWEETENER USAGE
PERCENTAGE GROWTH
1980-85; 1985-90**



sugar usage totaled 36.3 million cwts. in 1986 and will rise to a forecasted 44.7 million in 1988. On the other hand, cane sugar deliveries are expected to decline from 14.6 million in 1986 to 10.5 in 1988.

Cane sugar usage will also decline marginally in the South as deliveries by the refiners will drop from 40 million cwts. in 1986 to 39 million in 1987 and to the 38-39 million range in 1988 (see Chart 6C). Although beet sugar will have to travel a long distance to reach some of the southern states, beet sugar penetration will increase from 3 million cwts. in 1986 to 4.8 million in 1987 and the forecast for 1988 is for a further increase to 5.3 million. Beet sugar is now available in Miami.

Finally, the West has always been a major consumer of beet sugar but Hawaiian cane has also played a major role. The recent growth in beet sugar production in the West, however, is forcing more and more raw cane sugar to the Gulf and the East. Cane sugar deliveries in the West are expected to fall from 6.7 million cwts. in 1986 and 1987 to 5.8 million in 1988. Beet sugar usage will increase from less than 15 million to more than 17 million cwts. during the same period.

In summary, the increasing availability of beet sugar combined with shrinking quantities of imported raws have led to larger flows of sugar from the West to the East and South. Beet sugar exports from the North Central region to the Northeast and South have grown at a rapid pace. In turn, this has provided an opportunity for excess beet and cane sugar in the West to move into the North Central area.

III. GROWTH IN SWEETENED PRODUCTS AND CHANGES IN SWEETENER USAGE

Sweetener Sales Patterns, 1980-1990

Another area of dynamic change involves the differing rates of growth of various sweetened products and the shifts in sweetener usage associated with those products. Sweeteners include the caloric types: sugar, HFCS, glucose, dextrose, honey, and edible syrups plus the non-calorics: saccharin and aspartame. Chart 7 presents the 1980-1985 and the 1985-1990 annual growth rates for total sweeteners, caloric sweeteners and non-caloric sweeteners and by type of final product: beverages, baking, dairy, confectionery, canning and processed, and non-industrial.

Total sweetener demand (the third set of bars) grew at a 3.3 percent annual pace between 1980 and 1985. A rapid increase in non-caloric sweetener usage was the key factor responsible for

the relatively high rate of total sweetener growth during the early 1980's. The introduction of aspartame clearly expanded the total sweetener market. As Chart 7 illustrates, the annual growth rate for non-caloric sweeteners topped 18 percent in the 1980-1985 period.

A larger non-caloric base will lead to slower growth rates in both total demand and non-caloric usage during the 1985-1990 period. Total sweetener demand in the 1985-1990 period is forecasted at 1.5 percent as non-caloric is expected to decline to the 3 to 4 percent range.

Caloric sweeteners grew at a much slower pace in the early 1980's -- 1.8 percent. Data for 1986 and 1987 indicate an even slower pace for the second half. The 1985-1990 forecast for caloric sweeteners is 1.3 percent annually.

Sales Patterns by Type of Product, 1980-1990

Beverages experienced the fastest rate of growth among the various final product categories during the 1980-1985 period. Beverage sales as measured by sweetener usage (converted to sugar equivalents) increased at a 7.4 percent annual pace -- more than double the rates for the other sweetened products. The growth rates for baking, dairy and confectionery were approximately 3 percent during the first half of the decade while the canned-processed area increased at a 1 percent rate and non-industrial usage of sweeteners declined.

The beverage sweetener usage pattern during the early part of the decade is interesting. Caloric sweetener use by beverages increased at a 4.5 percent annual rate -- again more than double the growth rate for total caloric sweetener use -- and beverage use of non-caloric sweeteners grew at a 20 percent pace. Beverage officials indicate that one of the major factors in allowing them to capture a larger share of the caloric-sweetened snack market was lower sweetener costs obtained through the conversion to HFCS. HFCS55 prices were generally 15-20 percent lower than sugar prices while the HFCS42 price discount varied between 20 and 40 percent.

As noted above, the projected growth rates for 1985-1990 are lower than the rates for the first half of the decade. High sweetener prices in 1979-1980 depressed consumption in 1980-1981. Falling sugar and HFCS prices during 1981-1985 allowed consumption to grow at a rapid pace. In addition, aspartame was a new product and the non-caloric base in 1980 was small. Caloric sweetener prices are expected to be stable in the 1985-1990 period and the conversion to HFCS is essentially complete.

Consequently, the growth of sweeteners in beverages is projected at 2.2 percent annually with caloric beverage sales growing at a 1.5 percent pace and non-caloric near 4 percent. Baking, dairy and confectionery will drop from 3 percent to the 1-2 percent range. A positive growth rate is projected for non-industrial sugar even though the retail sector will likely decline. Refined beet sugar sales to wholesalers have grown rapidly in 1986 and 1987 as beet processors have larger quantities for sale. The wholesaler has become an important link in the flow of sugar from one region to another. Because the USDA classifies sales to the wholesaler in the non-industrial category, non-industrial purchases of sweeteners will likely grow at a one percent rate during the 1985-1990 period.

Sweetener Use by Type of Product

Chart 8 compares total sweetener use by type of product for the 1975-1990 period. The important pattern which emerges from the pie charts concerns beverages. Beverage use of total sweeteners has increased from 23 percent in 1975 to 36 percent in 1985 and is projected to account for 38 percent by 1990. Baking, confectionery and dairy products have maintained constant shares near 13, 10, and 5 percent, respectively. The sectors which have lost share in terms of total sweetener usage are the processing sector and non-industrial applications.

Sugar Use by Type of Product

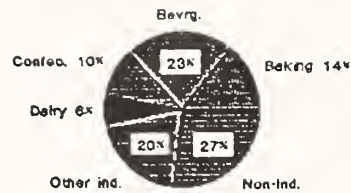
Chart 9 compares sugar use by type of product for the same 15 year period. Baking, confectionery and the non-industrial sectors have gained share in their use of sugar as the beverage group has dropped out. Baking's share has increased from 13 to 20 percent, confectionery usage has grown from 9 to 15 percent, and the non-industrial share has increased from 36 to more than 40 percent. Finally, beverage usage of sugar has fallen from 22 percent in 1975 to 4 percent in 1985 and is projected to decline to 2 percent by 1990.

Again, it would be helpful to know where the wholesalers are selling sugar. If their distribution were known, the shares for the industrial categories would be even larger.

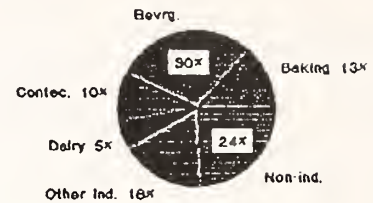
IV. SUMMARY

A number of changes have occurred in the sweetener markets since the early 1970's. The factors causing change are three-fold: new technology, government regulation and shifts in consumer tastes. Technology is responsible for the introduction

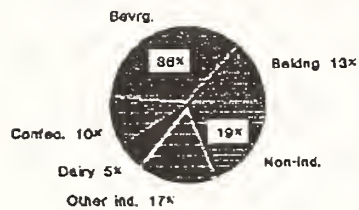
CHART 8
U.S. TOTAL SWEETENER USE
BY TYPE OF PRODUCT OF BUYER
1975 - 1990



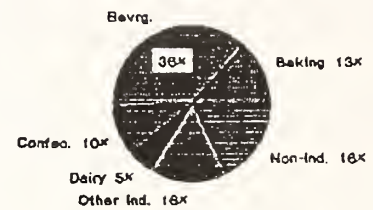
1975



1980

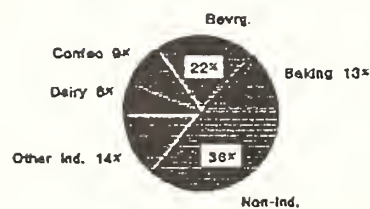


1985



1990

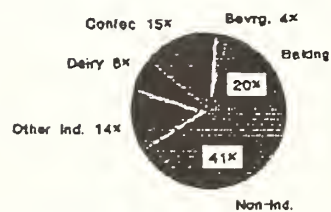
CHART 9
U.S. SUGAR USE
BY TYPE OF PRODUCT OF BUYER
1975 - 1990



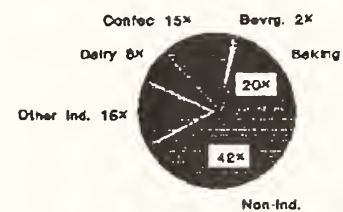
1975



1980



1985



1990

of HFCS and aspartame. These products are responsible for the rapid expansion of the beverage sector which now accounts for almost 40 percent of all sweetener usage. A shift in consumer tastes toward non-caloric sweeteners also aided the beverage sector which was able to take advantage of the taste shift faster than other food forms.

Government programs to aid sugar, cane and corn farmers through sugar price supports have led to an increase in beet sugar availability while restricting cane sugar imports. As a result, major shifts in regional supply/demand sugar balances have occurred with beet farmers in the West and North Central regions and cane farmers in the South as the major beneficiaries. The growth in beet sugar production in the West has increased the region's surplus balances and exports. Beet sugar growth in the North Central area has reduced the region's supply/demand deficit and increased its exports. Domestic cane sugar growth in the South has been substantial but has not offset the decline in raw sugar imports which means that the region's historical surplus output has fallen. The Northeast has experienced an increase in its deficit as refineries have closed and its dependence on sugar imports from the North Central and West has grown.

ANNUAL AGRICULTURAL OUTLOOK CONFERENCE

United States Department of Agriculture
Washington, D.C.



Outlook '88, Session #12

WHAT THE CONSUMER WANTS

Jane Anderson
Executive Director
California Beef Council

A young couple has returned from the hospital with their brand new baby. He's asleep in his new blue crib. As the young mother comes into the room, she sees her husband gazing fondly at their son. She thinks how wonderful it is that he is "bonding" with his child and feeling good about being a father. She turns to him and says: "a penny for your thoughts." He looks up and says ... "I wonder how they managed to make that crib for \$29.95."

Putting our own perspective on others is the simplest and most often made mistake in marketing products and services. As in the case of the young mother, we need to ask questions to find out what people think, how that impacts their behavior today, and what their current actions mean for tomorrow.

My comments are based on three perspectives: my experience as a marketer in California where fads become trends first; my charge by USDA to speak about all consumers rather than beef consumers; and my choice to speak in global terms rather than specific statistics to carry out my presentation.

During this session which addresses the link between nutrition and production, we need to ask four questions if we are to successfully answer our question: "What do consumers want?" We need to ask why do we care what consumers want? What do we know about consumers' wants? How do we, as producers of products or services in the food/health chain, respond to known consumer wants? And, finally, what is the role we all play in fulfilling consumers' needs?

Why do we care what consumers want?

We care, because understanding the consumer helps keep us all in business.

The marketplace of consumers, goods and services is dynamic. Change occurs even as I speak. All of the information gathered from studies that I will report upon today is just a snapshot in time of consumers' needs for products and services that were available when the studies were done. Secondly, the marketplace is abundant. The consumer doesn't have easy choices. The consumer has a plethora of choices. Using market research tools to track consumers is the best way to add to our understanding and ability to satisfy their wants.

Marketing pays. As individuals, involved in the food/health chain, it is worthwhile to keep in touch with available tracking studies. Many associations in Washington, like the Food Marketing Institute, the National Restaurant Association, the Fresh Produce and Meat Associations, track shopping and eating behaviors of their customers. Other commodity groups in California and elsewhere do continual monitoring of their products. Magazines and media track consumer behavior as well. All this information is available if you request it.

We did a survey this October of all California Commodity Boards, as well as several national organizations. Twenty-seven out of 40 replied to our question: What does the consumer want? Products that are nutritious and wholesome and offer quality and convenience was the answer. The second question we asked was: What messages do you give to consumers about your products? The replies show that nutrition has become an integral part of the commodity message, but wholesomeness, convenience and quality have yet to be worked in on a consistent basis.

What do we know about consumers' wants?

Oftentimes, behaviorists and cognitive researchers debate the merits of one form of research over another. What is more important is to use all the tools that are available, so that we can measure consumer demographics, attitudes and behavior as fully as possible. Back in 1700, it would have been fairly easy to put individuals into research boxes. But today, the complexities of the marketplace give us a matrix a mile deep of different factors that influence consumers' choices at any one given moment in time. Let's take a look at some of those major trends.

Demographics are the plain statistics of who, what, where in each age category. We have an aging population. By the year 2010, well over 30% of our population will be over 50. That says many people will have a different perspective on life. Including part timers, 60% of our American women are working outside the home, resulting in more single households, as well as two-income families with different opportunities and options. Baby boomers and their return

to "nesting" give a focus for new products and services for families. Our ethnic differences are of growing importance.

California is a wonderful microcosm of what is going on in the rest of the nation, particularly when we consider the dynamic ethnic populations. Here one out every five consumers speaks Spanish as a first language. The Hispanic birth rate is double that of the Anglo population. Fifteen percent of Californians come from diverse Asian backgrounds. Their number is growing rapidly as well through birth and immigration. As these groups enter mainstream America, they bring different attitudes and behaviors which influence shopping, cooking and food choices of other Americans.

Attitudes - Two major attitudinal shifts affect today's and tomorrow's food supply. There is a growing concern for health and longevity. It is not a fad; it is definitely a trend. Fitness - People plan to live longer. They know they will live longer and they want to live longer well. A second change concerns controlling time as pressures outside of the home, as well as the shortened amount of time we have to spend at home, increase. Convenience becomes the goal. Convenience does not just mean saving time, but also means easier preparation from pre-prepared foods to package tours to specialty magazines. One stop, simple answers to fill a complex need.

These attitudinal changes toward food, shopping and cooking patterns lead us into changed behaviors. Today, 43% of our food dollar is spent in foodservice, 57% in retail, and somewhere in between is that rapidly growing category of **take out food to eat in**. By 1990 Ad Age estimates that one out of every four meals will be prepared away-from-home to be eaten in-home.

Consumers are **blending, blurring** and **balancing** as they approach food products and services. Retail store formats are **blended** to make it easier to buy fresh and quick foods. Restaurant menus are **blurring**, so that you can buy upscale food preparations at lowered prices. Consumers find they can make tradeoffs between choices, as long as they feel they have **balanced** the menu -- not the meal -- on a daily or two-day basis.

The best way to exemplify the dynamic abundance of choices offered to consumers is with this list. The 1987 Restaurants & Institutions Forecast lists 12 foodservice chains that are growing and show promise as they exemplify current trends in foods.

Growth Chains Show Promise & Exemplify Current Trends

- * T. J. Cinnamon's: the ultimate impulse purchase, freshly baked hot cinnamon buns..
- * Ricksha Xpress: Chinese fast food on wheels.
- * Hector's Heck of a Burger: half-pound burgers by a CIA-trained chef.
- * Taco Mayo: "the White Castle of the Mexican food industry."
- * Double Rainbow Gourmet Ice Cream: a late-night dessert cafe.
- * Sesame Chicken: fried chicken spiced with Oriental flavors.
- * Blue Chip Cookies: "your teeth itch just thinking about them."
- * Chowder Pot: all-you-can-eat shrimp, salad, chowder & dessert bars.
- * Mother Mesquite's: a multitude of mesquite-grilled offerings.
- * NYPD (New York Pizza Dept.): pizza delivery by squad car.
- * Thunder Bumpers: 50's malt shop cuisine.
- * Central Park: double drive-thru burger stand.

This list represents the convenience, the variety and the ethnic and international flavor of our food choices. It represents the diet dichotomy where 33% of our population claims to be on a diet. And yet they will break that diet to go out and enjoy a marvelous dessert like ice cream or cookies. We find people will cut down on nutritionally rich meat to avoid fat, then switch to a salad covered with 5-6 tablespoons of salad dressing and end up with more fat and fewer nutrients.

A broad view of many market research studies today indicates consumers are seeking comfort with their diets. They try to balance what they know with what is available and then adjust their behavior. Consumers say: "I am going to eat a little less and try to balance my diet." It is not exciting news, but it is a practical approach. It is not as dramatic a change as some nutritionists and nutrition advocates would like to see, but it is a true statement of current attitudes as reported through many marketing studies. Right now, what the consumer wants are five easy things in food. They want taste, convenience, nutrition, variety -- and they want it at a reasonable price. Sometimes that's a lot to ask, but that's what consumers do want.

In the 1987 Consumer Climate conducted by the meat industry, consumers report the following: Nine out of 10 tell us they are aware there are leaner meats in the market. Six out of 10 buy them regularly. Eight out of 10 trim the fat from meat before they cook it. Six out of 10 remove the skin from poultry before they cook it. These adjustments make a tremendous difference to the quantity of fat they find in their diets from animal products.

Consumers are also buying more fresh products, particularly fresh fruit and vegetables. At the same time they have increased their sugar intake through desserts and sodas. They make more trips to the market more often for take-out/eat-in convenience foods. They use fewer fats and oils in deep fat cookery at home, but more sauces and condiments are used on broiled and oven-baked foods.

These diet dichotomies do not necessarily track. Behavior is often contradictory to other behaviors and to definitely stated attitudes held by individuals. For example, we have even gone to the extreme of supporting research to track garbage trends. Garbage doesn't lie! Oftentimes, the University of Arizona garbologist, William Rathje, finds in his 10-year study that consumers say one thing about the foods they eat and the newspapers they read. Yet, the garbage waste includes items that they claim they never bought. We must recognize that consumers live in a confusing world. Consumers control their lives as best they can.

We often hear the question in our research: How do I get good information to make reasonable decisions? That question brings us back to our participation in the food/health chain. One of these days, I hope Washington sees the light and presents nutrition in a positive way. Diet and disease are turnoffs to nutritional change and help create discomfort with our food supply, not change in a positive direction.

How do we as producers of products or services in the food/health chain respond to known consumer wants?

We in the beef industry have focused on the lighter side of our products. We produce leaner products and encourage retailers to sell a trimmer product. We have had to figure out what products we can produce profitably and for which consumers. Because there is not a unilateral consumer, there is no one nutrition message that is good for everybody because it is good for somebody. However, we find this is not the case in public health where there is a unilateral message. Our industry's challenge has been to position our products so they fit this message.

As a positive example of the interrelationship between industry, government and health professionals in reaching the consumer with positive information in the food/health chain, the California Beef Council has developed **Mealstyles**. It contains a framework for developing lifelong eating habits using beef as part of a balanced diet to make sure people have an adequate supply of iron and zinc, to make sure we match everybody's dietary guidelines.

Mealstyles is filled with do's rather than do not's. It is non-disease specific; it promotes health in general. Its purpose is to improve the nutrient quality of meals, yet still maintain food patterns consistent with current dietary recommendations. These recipes are set within 10 days of menus so we can answer questions we used to get from people saying they loved our recipe book, but how does beef fit into the latest dietary advice?

The brochure contains general recommendations that promote the establishment of sound eating habits and includes food selections and preparation tips, menu plans, recipes, nutrient analysis, suggestions for dining out and selecting beef's six leanest cuts at the retail market.

Nutrient Criteria

Menus:

- 1400 to 1600 calories
- an average of 15 mg. of iron

At least:

- 10 mg. zinc
- 60 mg. vitamin C
- 1000 mg. calcium

Generally no more than:

- 30% calories from fat
- 10% calories from saturated fat
- 200 mg. dietary cholesterol
- 3300 mg. sodium

Content:

- 10 sample menus
- 22 recipes use beef in 2-3 ounce portions
- Tips for reducing fat/calories through grilling, microwaving, through selection at retail level, and when dining out.



*A Framework for
Developing
Lifelong Eating Habits
Using Lean Cuts
of Beef as Part of
a Balanced Diet*

What is the role we play in fulfilling consumer needs?

We are selling "intangibles," as stated by Dr. Ted Levitt of Harvard University. As in the case of beef, taste and tenderness are assumed qualities. "Consumers usually don't know what they're getting until they don't get it. Satisfaction is mute! Its existence is affirmed only by its absence." Nutrition research is part of the intangibles of marketing, particularly within USDA. Part of our role is to be able to pursue the information we need about products and their real nutritional content, to keep up with changes in products as they occur, to provide a national nutritional data base, and to track products as they are really used in our national market basket. By continually tracking the dynamics of the

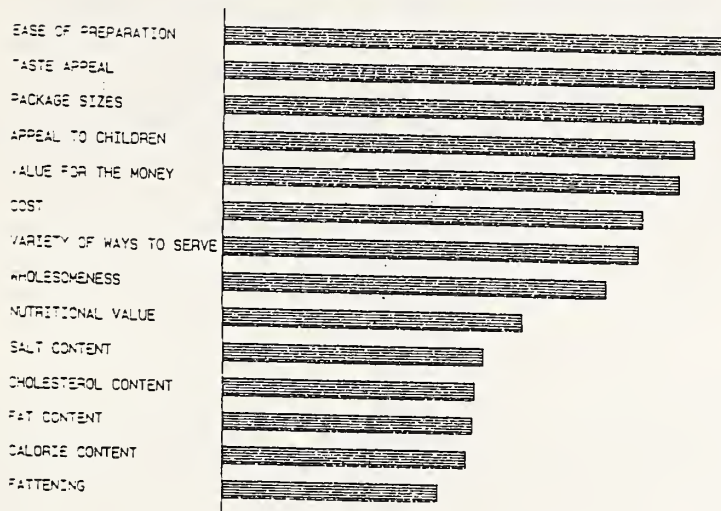
marketplace, nutrition providers' information can be credible, meaningful and clear. It can be used to let consumers make choices on a daily basis that are more consistent.

We also must make sure we keep an open avenue for debate. Too often, particularly in Washington, I think we forget our manners. As Ms. Manners, Washington Post states: "Manners are there, because oftentimes forms of etiquette are needed so that we can discuss in a climate in which we have irreconcilable differences." As in the case in the 1890's, when a visitor presented her card and was told "madam is not at home," she knew the meaning to be "madam can't face you any more than you can her, but takes due note of the fact that you have done your duty." If we understand the proper way to address research findings from both the health and nutrition fields, we can improve the climate for consumers to make choices on a daily basis. Name calling and personal attacks may make headlines, but they limit debate and further confuse the decision making process.

Marketing and marketing research are sciences based on a consumer-driven marketplace. The answers change as the marketplace changes. As long as we do not have exact answers, we need to encourage research from credible sources. The findings need to be published and publicized in a positive way, so that the information adds comfort to the individual's food choice and the food is of benefit to the person's nutritional status. We don't really have a complete, exact science on how nutrients affect our bodies. As a result, changing health philosophies pull consumers one way and then another. It is no wonder that we see diet dichotomies in the real world of the consumer. We as nutrition educators and researchers must focus on working within that same world. We are left in the position of how to get practical advice to the person who needs it, as well as to the person who does not care about nutrition and does not wish to make change.

The 1987 Consumer Climate for Meat shows us just how important nutritional concerns are to consumers when they make their purchase decision. Nutrition is not on the top of the list. Attributes that most influence the purchase behavior for meat, fish and poultry are: ease of preparation, taste appeal, package size, appeal to children, value for the money, and cost. The following chart puts nutritional concerns in proper perspective with these other lifestyle concerns.

Factors Influencing Meat, Fish & Poultry Purchases



Source: Consumer Climate For Meat 1987

Like it or not, the study of consumer attitudes and behaviors indicates a complex, multi-dimensional decision-making process. Nutrition is just one factor that can vary in importance, depending upon the time, the place and the available resources. Our challenge in providing consumers with what they want is to incorporate credible, clear, meaningful messages and to encourage a growing national research base to find the answers to meet the changing product and service needs of our dynamic marketplace. To do this, we need to use all the monitoring and analyzing tools available. We need to know what the consumer wants. If we do not focus our efforts, our products and services will go to waste. Consumer confusion over nutrients, messages, and food choices will multiply.

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PRODUCT TECHNOLOGY

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In 1985 Americans spent more than \$420.76 billion on food (1). This represents nearly a 235 percent increase since 1975, and a 490 percent increase since 1965 (table 1). These nominal dollar figures reflect a unique combination of factors, ranging from such changes as the shrinking size of the average household to the rise in two-income families. Central to these food purchasing decisions is convenience and variety. Other factors may also influence consumer choices, such as age and lifestyle considerations. Certainly within the past decade or so the health and fitness movement has had a powerful effect on the kinds of products consumers are buying and manufacturers are developing. As shown in figure 1, manufacturers are developing new products--nearly 2,000 in 1984--which is an increase of more than 10 percent over 1983 and represents an all-time high (2).

Today's Consumer

The Food Marketing Institute (FMI) conducts an annual consumer attitude survey, designed to identify the changing needs and priorities of the American consumer. In 1987, the FMI survey, termed Trends reported that 94 percent of shoppers were concerned about the nutritional content of the food they ate (3). Nutritional contents of greatest concern included salt (22 percent), vitamins and minerals (21 percent), sugar (16 percent), fat (16 percent), preservatives (14 percent), calories (14 percent), and cholesterol (14 percent). The categories of nutritional concern showing the largest percentage increase in concern from 1983 to 1987 included cholesterol (5 percent to 14 percent), calories (6 percent to 14 percent), and fat (9 percent to 16 percent). The FMI Trends report also indicated that 64 percent of consumers were cooking or preparing foods differently than they did 3 to 5 years ago (3a). The greatest change in preparation included less frying (33 percent), more microwaving (25 percent), less added fat (25 percent), more broiling (24 percent), less salt (19 percent), and less cholesterol (9 percent). This survey also reported that consumers consider certain components in foods to pose serious health hazards, including residues of pesticides and herbicides (76 percent), antibiotics and hormones in poultry and livestock feed (61 percent), fats (55 percent), cholesterol (51 percent), and salt in foods (43 percent) (3b).

Considerations for New Product Development

Clearly, as these numbers increase each year, they indicate a lasting concern with the influence of diet on health--and not merely a passing fad. Those involved in product development must be cognizant of these factors, and design products accordingly. It has been estimated that it costs from \$500,000 to

\$1 million to test market a new product and from \$20 million to \$30 million to introduce the product nationally (4). Companies like General Foods spend about \$120 million per year on research, which is about 15 percent of total U.S. food industry research expenditures (5). Some of the major trends in new products over the past several years have centered around the consumer's perception of a healthy diet. There has been a shift from animal fats to vegetable oils (figure 2), and from saccharin to aspartame (table 2). Convenience has been cited as the dominant theme in today's new products (4). This factor has its roots in the demographic and lifestyle changes in recent years. Projections indicate the American consumer will become more mobile; households will continue to grow smaller; and shoppers will have less time to prepare meals. Microwave ovens are already in over 40 percent of U.S. homes, a figure which is expected to reach 70 percent by the end of this decade (4).

Freshness is another important factor in today's new products, and sales of produce and at salad bars reflect this interest. Produce accounted for nearly \$18 billion in sales in 1985, up by more than 8 percent over 1984 (6). Fresh fruit and fresh vegetables ranked 3rd and 6th among categories with the largest volume increases in dollar sales in 1985, with increases of \$545 million for fruit and \$400 million for vegetables (7). Supermarket sales of refrigerated salads, a fairly new item in the dairy case aimed at capturing some of the interest in fresh produce, increased by more than 22 percent from 1984 to 1985 (8). In tandem with this trend, sales of dietetic and low-calorie sauces and dressings topped \$83.6 million in 1985, up by more than 10 percent since 1984 (9).

Food supply data indicate that consumption of fresh fruits were at 91.3 pounds per capita in 1985, up by more than 7 percent from a decade ago (10). Consumption of canned fruits has been declining steadily: in 1985, per capita consumption was 8.5 pounds, down 41 percent since 1970. Fresh vegetables were at 88.7 pounds per capita in 1985, also up, by more than 20 percent since 1975 (10). Consumption of canned and frozen vegetables were only a fraction of the fresh versions: in 1985, consumption of canned vegetables were 33.7 pounds per capita, down 40 percent from a decade ago; frozen vegetables were 12 pounds per capita, less than 2 pounds above 1974 figures.

Producers of canned vegetables have been experimenting with new processes to improve the quality of the product, and ultimately, consumer acceptance. American Can has developed a process called Salad Bar Fresh, which utilizes acidification to lower the temperature required to sterilize the product in the can, resulting in firmer, fresher-looking canned vegetables (11). Continental Can has developed a process, termed Veri-Green, which stabilizes the chlorophyll in green vegetables, giving them better color, texture, and flavor (11).

Any new product on the market must meet the consumer's need for convenience, taste, wholesomeness, nutritiousness, and good dollar value. Not all of these factors are weighed equally for every product purchase. For example, the sales of superpremium ice cream, which has about double the butterfat content of traditional ice cream, were up 20 percent from 1984 to 1985, with total supermarket sales of more than \$2.1 billion (12). There are some very positive trends occurring in the marketplace, though, which reflect of consumers' growing interest in eating in a healthier way. For instance, sales of diet and low-calorie foods increased by 7.4 percent from 1984 to 1985, reaching \$907 million (9). Some of the categories showing the largest increases from 1984 to

1985 included diet juices and drinks (up by 22 percent, sales of nearly \$90 million), sugarless candy and gum (up by 13 percent, sales of nearly \$12 million), and artificial sweeteners and sugar substitutes (up by 11 percent, sales of more than \$210 million) (9). Sales of many of the low-calorie products reflect the widespread use and popularity of the artificial sweetener aspartame (brand name NutraSweet), whose per capita consumption rose from 0.2 pounds in 1981 to 11 pounds in 1985; during that same period saccharin use fell by 25 percent, from 8 pounds to 6 pounds per capita (table 2).

Soft drink sales in 1985 topped \$8 billion; low-calorie versions, representing slightly more than one-fourth of that figure, increased by 9 percent from 1984 to 1985 (13). Per capita consumption of soft drinks in 1985 were at an all-time high of 45.6 gallons, up by more than 20 percent since 1980 and by 67 percent since 1975 (14). In large part this rise in popularity is due to the tremendous increase in variety and the addition of new ingredients, or enhancements, as they are called in the trade. Manufacturers have created options without calories, caffeine, or the bitter aftertaste of artificial sweeteners to capture sales of specific groups of consumers. Now they are adding ingredients, also geared at meeting consumers' needs: more than a dozen companies have launched plans for as many different enhanced drinks (13). Aimed at nutrition-conscious consumers are those manufacturers adding fruit juices (Coca-Cola's Slice, Del Monte's Diet Sunkist Plus, Crush International's Crush with Juice), and vitamins and minerals (Minute Maid's sodas with vitamins C, B-6, and folic acid; Coca-Cola's Tab with calcium). Minute Maid has also added calcium to its frozen and refrigerated brands of orange juice. Other companies have followed this trend of fortifying a nontraditional food with a nutrient identified as low in the average diet.

The formulation of new products to contain nutrients not naturally present in those foods raises several important issues. First, at what level should such nutrients be added: 10 percent of the RDA (Recommended Dietary Allowance), such as the vitamin C content in fruit juice-enhanced soft drinks; or 100 percent of the RDA, as in the iron content of many fortified breakfast cereals? Second, are the enhancements appropriate? Are there any binding agents within the food or in foods normally eaten together (such as cereal and milk) that might inactivate or block absorption and utilization of the added nutrient, making the fortification little more than an enhanced label and marketing ploy? In other words, what is the bioavailability of such enhancements (15)? What is the effect of the low pH of carbonated soft drinks on the utilization of added calcium or vitamin B-6? What is the influence of the high fiber content of cereal products on the absorption of added iron?

Third, how should these enhanced products be labeled? Is it sufficient to label a product just with "100% RDA for iron"? Or "...well-absorbed source of calcium"? If one 12-ounce can of Tab supplies 10 percent of a woman's RDA for calcium, might a consumer assume that 10 cans per day would meet her total requirement, without any adverse effects from this food's other components? Should the form of the added nutrient be stressed, such as calcium carbonate versus calcium lactate versus calcium phosphate? The formulation of new products and additional knowledge regarding the association between diet and health complicate already difficult labeling issues. According to the 1978 Consumer Food Labeling Survey, of the 64 percent of consumers who used the nutrition information on the label, 23 percent found it confusing, particularly the terminology (16). Will additional information only make this worse?

A fourth consideration, which is related to the labeling issue, is that of health claims on labels. Industry and government both agree that food labels, by virtue of their close proximity to the food product during purchase, preparation, and consumption, can serve as an important media for conveying information to the consumer on the relationship between diet and health. But the criteria for evaluating the propriety of health messages has yet to be clearly established (17, 18).

Despite these restraints and problems, the addition of key nutrients to nontraditional foods may serve an important function in improving the diets of many individuals. As this practice grows and more formulated products are accepted by consumers, it may force all of us, consumers, manufacturers, educators, policy makers, to look at traditional foods and food sources in a different way. The beneficial public health effects of grain enrichment and fortification with iron and vitamins and the fortification of salt with iodine have been well-documented (19-21).

Another area which has experienced tremendous growth in the past few years has been frozen foods. Sales of all frozen foods in 1985 totaled more than \$13.8 billion, including over \$4 billion in prepared foods (up 8.3 percent) and \$2.5 billion in entrees (up 10.3 percent) (22, 23). Among the best selling categories of frozen foods in 1985 were Italian dishes and Oriental dishes, with increased sales by more than \$96 million and \$36 million, respectively. Poultry dishes (up by \$66 million) and meat dishes (up by \$47 million) were other best-sellers (24). Sales of frozen prepared meat entrees contrast with sales of frozen, unprepared meats, which dropped by almost 16 percent from 1984 to 1985 (22). Single-portion entrees, particularly calorie-controlled, continue to dominate the frozen food category. Although portion- and calorie-controlled entrees meet certain consumer needs, they may have drawbacks that may not be apparent to the consumer. For example, because most of these entrees are microwavable, they must contain a sauce to be cooked efficiently--which is often high in sodium and/or fat. In many cases the sauce has more calories or sodium than the rest of the entree. Further research is needed to improve the nutritional composition of these products, which have already proven to have a valuable role in the diet of many of today's consumers.

Per capita disappearance of meat, poultry and fish is indicative of the American consumer's perception of diet and health (table 4). Beef consumption has been steadily declining since its high of 89 pounds per capita in 1976; in 1985 intake was at 74.6 pounds. Poultry consumption has been steadily climbing; it was at an all-time high of 39.7 pounds per capita in 1985. Fresh poultry ranked second in 1985 in largest volume increase in dollar sales, with a 9.7 increase of \$628.3 million (7). In contrast, fresh beef ranked first in largest decreases in dollar sales, down by \$170.9 million in 1985 (7).

In response to consumers' preference for smaller, leaner entrees, the beef industry has begun to pare down the fat on its products, and educate consumers on their new, leaner look. Kroger and Safeway have reduced the outside fat on beef, pork, and lamb cuts to one-quarter inch, equal to a 10 to 30 percent reduction of fat per cut. Smaller, boneless cuts, pre-cooked and vacuum packed are also appearing in meat cases and have been well received by consumers.

Meat Nutri-Facts, a comprehensive nutrition education program developed jointly by the National Live Stock and Meat Board, the American Meat Institute, and the Food Marketing Institute, provides point-of-purchase charts of calorie and nutritional information, complemented by stickers, brochures, and recipes. Begun in 1985, this program is now nationwide in more than 25,000 retail supermarkets (25).

The poultry industry has also responded by providing smaller, prepared entrees in the fresh meats case. And even though poultry enjoys a relatively low-fat image, Perdue and Holly Farms, two industry leaders, are breeding chickens with 16 percent and 21 percent less fat (26).

Conclusions

Today's marketplace is a dynamic forum where a myriad of forces are at play. In response to consumers demand for convenience, variety, taste, and nutrition new products are being developed at a geometric rate. As food products of the future become more fabricated and formulated, enriched and fortified, we may need to reexamine traditional food sources of nutrients. The possibilities and challenges for our food system continue to grow.

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Table 2. —Caloric and noncaloric sweeteners: Per capita consumption, 1965-85

Calendar year	Refined cane and beet	Corn sweeteners					Edible syrups ^{1/}
		High fructose	Glucose	Dextrose	Total product weight	Total dry weight	
Pounds							
1965	97.0	0	13.7	4.5	18.2	15.1	1.0
1966	97.3	0	13.9	4.6	18.5	15.4	.9
1967	98.5	0.1	14.8	4.6	19.5	16.1	.9
1968	99.2	.4	15.7	4.7	20.8	17.2	1.0
1969	101.0	.7	16.4	4.9	22.0	18.1	.9
1970	101.7	1.0	17.4	5.0	23.4	19.2	.6
1971	102.1	1.3	18.6	5.4	25.3	20.8	.6
1972	102.3	1.8	19.2	5.2	26.2	21.4	.6
1973	100.8	3.0	20.5	5.2	28.7	23.3	.6
1974	95.6	4.2	21.4	5.3	30.9	25.0	.6
1975	89.1	7.0	21.8	5.4	34.2	27.4	.6
1976	93.4	10.1	21.8	5.4	37.3	29.6	.6
1977	94.2	13.4	21.9	4.5	39.8	31.2	.6
1978	91.5	17.0	22.2	4.1	43.3	33.7	.6
1979	89.3	21.0	22.3	3.9	47.2	36.4	.6
1980	83.6	27.0	21.9	3.8	52.7	40.3	.6
1981	79.4	32.8	22.2	3.8	58.8	44.6	.6
1982	73.7	37.6	22.4	3.8	63.8	48.2	.6
1983	71.1	43.2	22.4	3.8	69.4	52.2	.6
1984	67.7	51.1	22.4	3.8	77.3	57.8	.6
1985	63.4	61.3	22.4	3.8	87.5	65.0	.6
Total caloric sweeteners : Noncaloric sweeteners ^{2/} :							
Honey	Product weight	Dry weight	Saccharin	Cyclamate	Aspartame	Total	Total sweeteners
Pounds							
1965	1.3	117.6	113.9	4.0	1.7	0	123.3
1966	1.2	118.0	114.4	4.5	1.9	0	124.4
1967	1.1	120.1	116.0	4.8	2.1	0	127.0
1968	1.1	122.2	118.0	5.0	2.2	0	129.4
1969	1.2	125.2	120.7	5.3	1.6	0	132.1
1970	1.2	126.9	122.4	5.8	<u>3/</u>	0	132.7
1971	1.1	129.1	124.3	5.1	<u>3/</u>	0	134.2
1972	1.2	130.3	125.2	5.1	<u>3/</u>	0	135.4
1973	1.1	131.2	125.5	5.1	<u>3/</u>	0	136.3
1974	.8	127.9	121.7	5.9	<u>3/</u>	0	133.8
1975	1.2	125.1	118.1	6.1	<u>3/</u>	0	131.3
1976	1.1	132.4	124.3	6.1	<u>3/</u>	0	138.5
1977	1.2	135.8	126.8	6.6	<u>3/</u>	0	142.4
1978	1.3	136.7	126.7	7.1	<u>3/</u>	0	143.8
1979	1.2	138.3	127.0	7.4	<u>3/</u>	0	145.7
1980	1.1	137.9	125.1	7.7	<u>3/</u>	0	145.6
1981	1.2	139.9	125.4	8.0	<u>3/</u>	0.2	148.1
1982	1.2	139.3	123.3	8.4	<u>3/</u>	1.0	148.7
1983	1.2	142.1	124.6	9.5	<u>3/</u>	3.5	155.3
1984	1.2	146.8	126.9	10.0	<u>3/</u>	5.8	162.6
1985	1.2	152.7	129.8	6.0	<u>3/</u>	11.0	169.7

^{1/} Contains estimates of sorgo, maple, cane, molasses, and refiner's syrup. ^{2/} Sugar sweetness equivalent. Assumes saccharin is 300 times as sweet as sugar; cyclamate, 30 times as sweet as sugar; and aspartame, 200 times as sweet as sugar. ^{3/} Cyclamate food use was banned by the Food and Drug Administration in 1970.

SOURCE: K.L. Bunch. 1987. Food Consumption, Prices, and Expenditures 1985. National Economics Division, Economic Research Service, U.S. Department of Agriculture. Statistical Bulletin No. 749. Washington, D.C.: U.S. Government Printing Office.

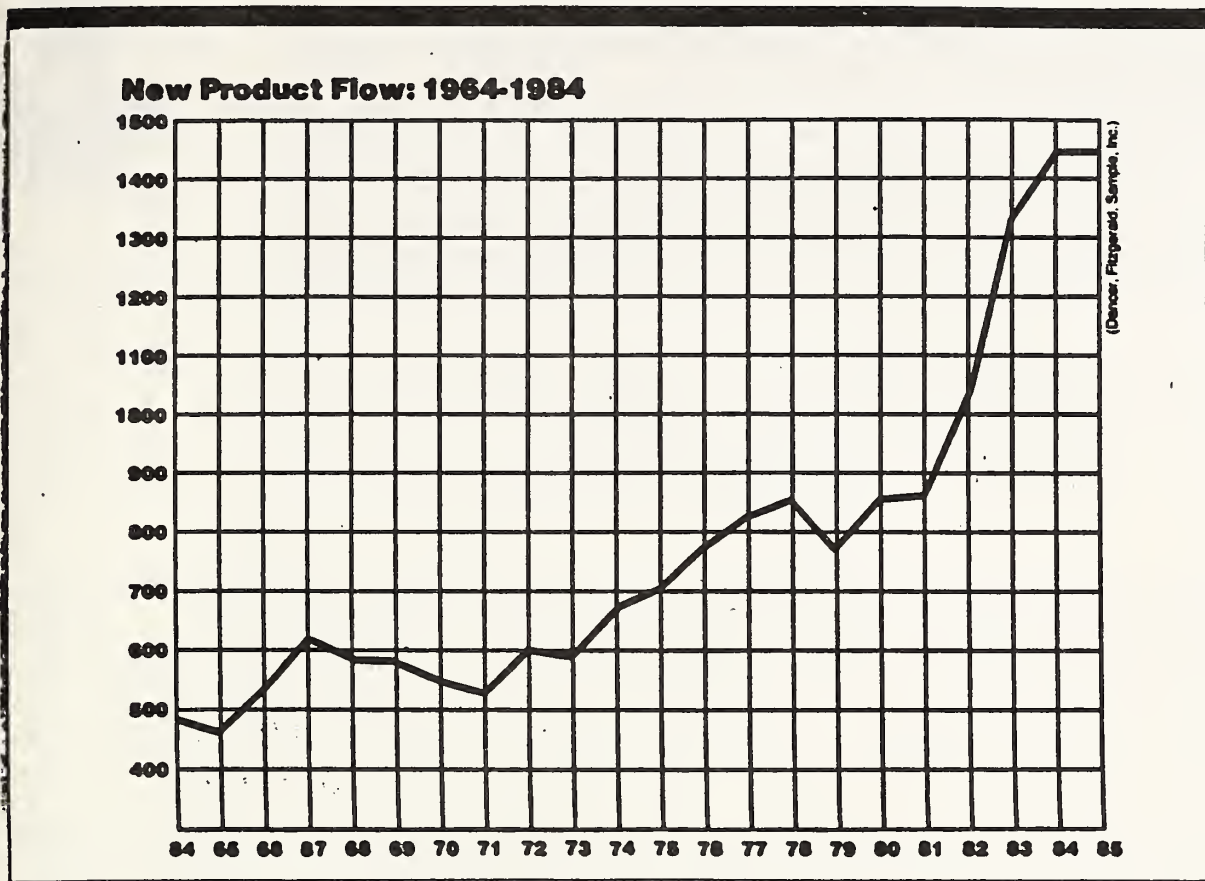
Table 3. ---Meat, poultry, and fish: Per capita consumption, edible weight, 1965-85 1/

Year	Poultry			Red meat					Fish and shellfish	Total red meat, poultry, and fish
	Chicken	Turkey	Total	Beef	Veal	Pork	Lamb	Total		
Pounds										
1965	23.1	5.8	28.9	69.5	3.6	45.0	2.4	120.5	10.8	160.2
1966	24.7	6.2	30.9	72.7	3.2	44.0	2.6	122.5	10.9	164.3
1967	25.4	6.7	32.1	74.3	2.6	48.2	2.6	127.7	10.6	170.4
1968	25.4	6.2	31.6	76.6	2.5	49.2	2.4	130.7	11.0	173.3
1969	26.6	6.6	33.2	77.3	2.3	47.8	2.3	129.7	11.2	174.1
1970	28.0	6.3	34.3	79.3	2.0	48.6	2.1	131.9	11.8	178.0
1971	28.0	6.6	34.6	78.7	1.8	52.7	2.1	135.3	11.5	181.4
1972	29.0	7.0	36.0	80.6	1.5	47.5	2.2	131.8	12.5	180.3
1973	28.1	6.7	34.8	75.9	1.2	42.5	1.7	121.3	12.8	168.9
1974	28.3	7.0	35.3	80.8	1.6	45.9	1.5	129.8	12.1	177.2
1975	27.8	6.7	34.5	82.9	2.8	37.1	1.3	124.1	12.2	170.8
1976	29.5	7.2	36.7	89.0	2.7	39.3	1.2	132.2	12.9	181.8
1977	30.6	7.2	37.8	86.6	2.6	40.5	1.1	130.8	12.7	181.3
1978	32.3	7.3	39.6	82.3	2.0	40.4	1.0	125.8	13.4	178.8
1979	35.0	7.8	42.8	73.6	1.4	46.1	1.0	122.1	13.0	177.9
1980	34.7	8.3	43.0	72.2	1.2	49.2	1.0	123.6	12.8	179.4
1981	35.8	8.5	44.3	72.7	1.3	46.8	1.1	121.9	12.9	179.1
1982	36.8	8.5	45.3	72.8	1.4	41.9	1.1	117.2	12.3	174.8
1983	37.3	8.9	46.2	74.1	1.4	44.3	1.1	120.9	13.1	180.2
1984	38.6	9.0	47.6	74.0	1.4	44.0	1.1	120.5	13.7	181.8
1985	39.7	9.4	49.1	74.6	1.5	44.2	1.1	121.4	14.5	185.0

 * 1/ See text under meat, poultry, and fish for description of new edible-weight series. Edible weight for
 * poultry and red meat derived from data in tables 5 and 8. Conversion factor for red meats adjusts from carcass
 * to edible weight: beef = 0.698; pork = 0.67; veal = 0.685; lamb = 0.658; broilers = 0.69; other chicken = 0.73;
 * and turkey = 0.79. Edible weight for fish is calculated by the U.S. Department of Commerce

SOURCE: K.L. Bunch. 1987. Food Consumption, Prices, and Expenditures 1985. National Economics Division,
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Figure 1. Introduction of New Products, 1964-84



From The 5th Annual New Products Analysis, Food Engineering, October, 1985, pg.66.

Fat from Animal and Vegetable Sources in the U.S. Food Supply

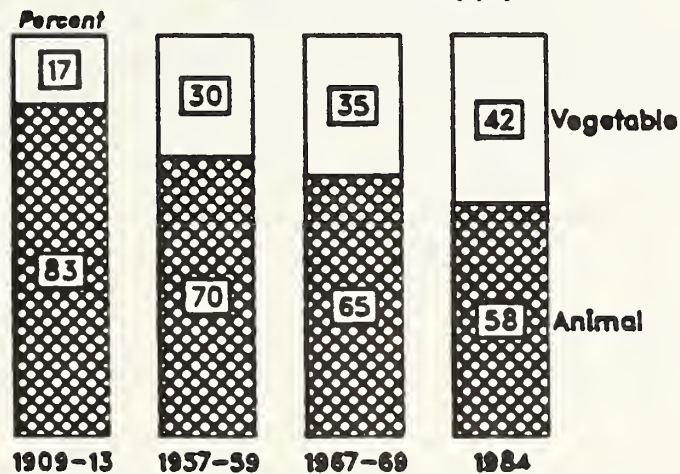


Figure 2. Sources of Fat in the Food Supply

From Raper, N.R. and Marston, R.M.: Levels and Sources of Fat in the U.S. Food Supply Pg. 127-152, in Dietary Fat and Cancer, C. Ip, D.F. Birt, A.E. Rogers, C. Mettlin (eds.), Alan R. Liss: New York, 1986.

ANNUAL AGRICULTURAL OUTLOOK CONFERENCE

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LINKING PRODUCTION WITH NUTRITIONAL CONCERNS. INDUSTRY RESPONSE

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The American food system, farm to the table, has achieved remarkable success in linking production with the nutritional "concerns" of the consumer. The evolution of our society from primarily rural into an urbanized, fast-paced society has brought about changes in consumer "needs." Food was once regarded in terms of "subsistence." Today, the availability of food is taken for granted, permitting the modern consumer's food "needs" to focus on not only wholesomeness, but convenience, tastiness, all for less money, in terms of disposable income, than was spent by their ancestors.

In the early days of this country, the linkage between food production and nutrition was direct and readily recognizable. The success of the pilgrim's agricultural activities made a direct impact measured by the difference between having a full stomach or frank malnutrition. As the pioneers moved westward, hardtack and salted jerky were displaced with better tasting, more convenient canned products. Today canned and frozen foods are challenged with microwaveable, irradiated, or aseptically packaged products of exceptional quality which allows the consumer greater freedoms to pursue individual priorities. It is not surprising that the success of the food system has fogged our roots to agriculture. Our greatest nutrition needed today is not subsistence but rather of excess. No wonder the urbanized homemaker has become complacent to the point where the classical bumpersticker "Why worry about the farmer as long as we have the supermarket" seems to be reflective of society today.

Key to concept and to my remarks regarding the "Industry's Response" is the recognition that our food system has evolved to meet changing consumer needs. As new food needs were created as a result of changing life-styles, opportunities were also created to meet those needs. This step-wise progress, cast in a highly competitive environment, continues to work today. Subsistence is now satisfied: Quality, wholesomeness, taste, and convenience are all available. Meeting the consumer's need for health and longevity through food now presents unparalleled challenges and opportunities.

The linkage between food production and nutrition has also become fogged because of the lack of a clear understanding of our nutritional expectations of our food supply. Satisfying hunger, curing vitamin and mineral deficiencies were relatively direct examples of the relationships between the availability of food and how a person felt. The nutrition problems of today, overnutrition and associated chronic diseases, are multifaceted and occur over a long period of time. Linkage of any one component of a varied dietary to an individual's overall health and well-being presents unique challenges.

The food industry, because of the competitive nature of the business environment, has become extremely efficient in identifying and meeting consumer needs. Here linkages between production and nutrition are very evident. The consumers need (real or perceived) to be slender, healthy, and free of risk of the chronic diseases have been quickly sensed, evaluated, and translated into products with attributes that provide the desired point of difference. Production of specific food products take the form of low calorie, low fat, low cholesterol, low salt, or high vitamin, and/or high fiber food products available, in a competitive environment, with other food choices. With the consumer awareness and interest in nutrition at an all time high, the linkages with food product development are indeed alive and well.

These direct linkages are also readily apparent in the animal product section of the supermarket. The consumer "need" for leaner cuts of meat, the perceived benefit of chicken and fish and the preference for low fat milk have had a major impact. However, because of the nature of these markets the production component of this equation has been slow to change, yet change has occurred.

Direct linkages between other agriculture sectors of the food system and nutritional concerns of the consumer are less apparent. This is likely due to the farmer's direct customer, the processor, is less focused on the nutritional attributes of the commodity per se. The farmer's primary objectives have been to raise crops which provide a return on their investment of money and effort. Commodities that have desired functional qualities have been successful in changing agriculture production practices. However, before nutritional concerns are successfully introduced into the farmers decision tree, it will be necessary to demonstrate that changes in agricultural practices are the most cost/effective route to accomplish the objective of improved nutritional well-being of the consumer. There would be little interest in a nutritionally superior crop variety unless it also had equal or better agricultural characteristics and could be harvested, processed, and distributed separately and then presented to the consumer with a meaningful point of difference at a competitive cost.

For example, why would Quaker seek to develop a variety of oats with twice the B-Glucan content, twice the protein and vitamin content when we know the costs would be high (in time and effort) and the chance of success low, especially when we already know the nutritional parameters in question can easily be achieved through existing technology once the raw commodity is received at our processing plant. Nutritional manipulation of a single food either through agricultural practices or by processing technologies will likely have only a minor impact on the overall "real" nutritional health of the consumer who is eating a variety of foods throughout their lifetime. To recommend or initiate major changes in the food system based on perceived nutritional benefits would appear to be ineffective use of resources.

The role of the agriculturist in providing nutritional benefit will likely be more long range and indirect. As new varieties of crops are developed, either through conventional plant breeding or biotechnological techniques, there should be an understanding of the eventual end use, including nutritional role, of the product. Genetic alteration for improved yields, disease resistance, etc. should not be made at the expense of the nutritional profile of the commodity. In order for genetically manipulated crops to be successfully introduced into the dietary mainstream, issues related to agronomics, processing, distribution, and consumer need will have to be addressed concurrently.

Thus, from a food processing industry perspective, the linkages between production of finished products and consumer nutritional concerns are real and closely associated with future successes in the marketplace. These issues are clearly included as priorities in the minds of the modern consumer. It is unlikely, however, with possibly the exception of the animal product industry, that agriculture practices will, in the near term, be directly linked with nutrition concerns.

If there is to be more effective linkages between food production and the nutritional needs of the consumer, the U.S.D.A. will likely be required to take a greater role in coordinating and encouraging the various segments of the food chain to work toward this common goal. The U.S.D.A. is uniquely qualified to provide the needed leadership.

The processing food industry, only one segment in the food system, is not a monolith. The resources and "way of doing business" within this segment of the food system are diverse and very independent to lump all industries involved in the food system as one entity, while convenient for conference organizers is unrealistic.

For the most part the members of the processed food industry have neither the resources nor the intent to establish the necessary foundation on which to strengthen the linkages between food production and human nutrition.

The dietary surveys needed to establish the nutritional status of the public at large and the development and maintenance of a data base for the nutritional value of the foods available for consumption can best be coordinated by a governmental agency such as the human nutrition information service. These surveys help the industry better understand and differentiate between business opportunities based upon "real" or "perceived" nutritional need.

The U.S.D.A. human nutrition research projects conducted through the agriculture research service and cooperative state research service continue to clarify the goal we are trying to attain with respect to human requirements, bioavailability of nutrients and the "real" role diet may have in health promotion and prevention of chronic diseases. Nutrition is a dynamic science. The answers to pertinent questions will be derived from a long term commitment to basic research which has been effectively managed and coordinated from a broad perspective of how the information may fit into the many facets of feeding people. The U.S.D.A. efforts in human nutrition research clearly have a long range value in providing a better base for linking production to nutritional concerns. Research programs focused on plant and animal production should continue to recognize the end use of their respective commodities and consciously address the nutritional impact of their research programs. Finally, the ARS research laboratories directed toward crop utilization play a key role in enhancing the linkages between production and nutritional value of the food supply. The food processing industry is varied with respect to the efforts applied toward basic research related to food science and technology. For the most part the R&D focus is comparatively myopic. Long range issues with respect to the evaluation and development of processing techniques or development of novel foodstuffs having enhanced nutritional value are addressed only by a small portion of the food processing industry. The ARS research programs are of great assistance to the industry at large and in turn the consuming public by making basic information available to a larger segment of the industry for more practical application.

Finally, the U.S.D.A. cooperative extension service also play a central role in strengthening the linkages between production and nutrition needs. Their nutrition information and education programs, directed toward the medical, health professional and lay public, help dispel many of the unfounded fears concerning the wholesomeness of the food supply. An informed public is better prepared to separate "real" nutrition issues from those "perceived" to be of importance. An informed, discriminating consumer can evaluate the endless barrage of nutrition/health messages provided by the media. Nutritional needs of the public which are based upon a solid science, add stability to the food production system. When these consumer nutrition issues are registered by a large enough number, the industry will respond with products that meet these needs. Successful products, in turn beget other product introductions with similar characteristics and changes in the food supply occur.

In summary, what segment of the food production system then can most effectively respond to the nutritional needs of the public?

This issue was addressed last year by the U.S.D.A. human nutrition board of scientific counselors. As part of this process, a series of workshops were held with plant production scientists, animal production scientists, and with food technologists. The report of these workshops provide a good deal of "food for thought." The result of these discussions was a consensus that the most effective means for affecting the nutritional value of the food supply would occur once the raw commodities reached the processor. The primary contribution of the plant production segment of the food system should be to continue to provide a uniform high quality, cost effective, raw material to the processor and maintain and expand the commodity base from which the food technologist could draw their basic ingredients.

The animal production segment may likely more directly impact on the nutrient composition of the products available to the consumer, especially with respect to the level of fat contained in meat and dairy products. However, until pricing and grading standards are modified to encourage equal or improved return to the producer there will likely be justified resistance to change.

Collectively, the U.S.D.A. and the operating agencies within the department have the potential to encourage the needed interdisciplinary research and communication efforts across all segments of the food production system.

Technical transfer and education throughout all segments of the food system from farmer to consumer are important to the continued evolution of the food system toward meeting the stated lofty goal. The food processing industry along with other industries must be full partners in both identifying problems and devising solutions.

Change must be based upon sound science so as to avoid misinterpretation. Science based food and nutrition education programs for the media professionals and consumers will add stability to the food system.

Finally, the continued coordination of the private industry, federal and state agencies and the consumer will be needed in order to accomplish this common goal.

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LONGER TERM OUTLOOK FOR GRAIN DEMAND

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Overall, demand prospects for U.S. grain are improving and the outlook for the next several years, particularly with respect to exports, is very promising. Before explaining the reasons for my optimism, let me briefly note two caveats.

A deep and prolonged world recession would alter grain demand prospects considerably. But since I have no way of predicting such an event, I assume that the world economy will continue to grow with short and mild recessions occurring in the U.S. and elsewhere from time to time.

A second caveat has to do with how U.S. policies and programs are implemented over the next few years. I will have more to say about this point shortly, but my major concern is that acreage and production might not be increased fast enough causing grain prices to increase sharply and providing other major producing countries with an incentive to increase their grain output.

I see three major forces propelling increases in demand for U.S. grain.

First, the world economy has had modest but sustained growth since 1982 and some areas of the world, particularly Asia, have had fairly rapid economic growth. Higher incomes have stimulated grain demand. Other countries, such as the Soviet Union and China, are trying to reduce food shortages in their economies. To the extent production in these nations cannot keep pace with growth in effective demand, they will have to rely more on imports.

A second force that is emerging is exhaustion of the "green revolution" and a slowing of the rate of growth in grain yields in developing countries, especially in Asia but in other areas as well. This phenomenon has yet to be systematically analyzed and quantified. But if my hypothesis is correct, it will force many countries to increase grain imports and import growth could be substantial in countries that are also experiencing good economic growth and have the money to pay for larger imports.

Remarks before the Annual Agricultural Outlook Conference, U.S. Department of Agriculture, Washington, D.C. December 2, 1987

Finally, we must give credit to the Food Security Act of 1985 for allowing U.S. grain prices to become more competitive . The U.S. is not only regaining market share, but lower grain prices are stimulating global consumption as well. There are clear indications that U.S. policies are working to expand exports even after adjusting for poor crops abroad and a cheaper dollar.

But there are also disconcerting signs on the policy horizon. By being slow to recognize the growth in demand for U.S. grains, we have also been timid in increasing acreage and production. Stocks of cotton and rice are already low and increases in acreage and production are called for in 1988. Wheat stocks readily available to the markets, i.e., those excluding the reserve, are also declining rapidly and stocks could become very tight in the 1988/89 season. For example, if a combination of U.S. wheat production and exports in the 1988/89 season results in a stock decline as large as I expect to occur this season, CCC stocks of wheat would be totally exhausted and perhaps causing the wheat reserve to be triggered. I think you can figure out what level of wheat prices is implied by such a scenario. A significant increase in wheat plantings for the 1989 crops will be essential to assure supplies adequate to meet total needs and to prevent a sharp price increase. Finally, feed grain stocks could decline rapidly and stocks excluding the reserve could be low enough in a few years to also require a significant increase in plantings and production.

Discussions on set-asides have so far been driven primarily by program cost considerations. While the budget problem is serious, a way has to be found to break the output-budget linkage. If we don't do so and do it soon, the U.S. risks allowing market prices to rise sharply, thereby encouraging grain production abroad and making it less costly and easier for foreign producers such as the EC to increase exports. In the process, growth in U.S. exports would slow and exports might even decline again if the foreign production response is strong enough.

But while we wait to increase acreage and production, existing grain stocks must be moved into the market aggressively enough to keep prices from rising significantly until surpluses -- both stocks and idle acreage -- are eliminated. This means moving CCC stocks and allowing reserve grain contracts to mature until reserve stocks are reduced to the minimum level required by law.

The recent record on moving stocks under government control into the market has been mixed; actions taken have been episodic and unpredictable. This situation needs to be remedied. The approach recently adopted for wheat is a step in the right direction. It needs to be sustained and quickly extended to feed grains as well.

ANNUAL AGRICULTURAL OUTLOOK CONFERENCE

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OIL CROPS OUTLOOK

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World oilseed production will likely surge to record highs in 1987/88 while U.S. production retreats again from its 1985/86 peak. The rise in world production is led by climbing soybean production in South America and rising soybean and rapeseed production in the EC. The decline in U.S. production is a result of a 2-year dropoff in soybean production from a peak 2.1 billion bushels produced in 1985.

Other factors likely to affect the 1987/88 outlook include:

- o Slowing protein meal demand in traditional importing countries, notably the EC.
- o A resurgence in soybean and soybean meal purchases by the Soviet Union.
- o Sharply rising internal soybean meal demand in Brazil, a major world producer and exporter.
- o Substantial increases in 1988 soybean production are expected in Argentina and Brazil which could dampen U.S. exports in the second half of the year.
- o Another strong domestic soybean meal offtake is expected in 1987/88.
- o With strong exports and domestic use expected, crush should remain at year earlier levels. This would continue the strong draw down in stocks.
- o Government owned soybean stocks are on the decline; once the stocks are gone the deterrent to upside price potential is also.

- o Acreage in 1988 may show little change following several years of decline.

Now let me get into some detail on some of these developments to emphasize the importance of possible future changes.

U.S. Soybean Production

Despite cutbacks in U.S. soybean acreage, 1987 production climbed from 1,940 to 1,960 million bushels. A record tying 34.1 bushels per acre, the second record yield in 3 years, overcame a 1.7-million acre decline in plantings. The decline in acreage pushed harvested acreage to 57.6 million, the lowest since 1976.

The decline in U.S. acreage continues to show a regional pattern. Acreage in the Southeastern States (Alabama, Georgia, North Carolina, and South Carolina) continues to decline; 1987 plantings were only 3.4 million acres, down from 8.5 million in 1982. The Delta States (Arkansas, Louisiana, and Mississippi) planted 7.5 million acres in 1987, down from 11.2 million in 1982. Meanwhile, acreages in the Eastern Corn Belt (Ohio, Illinois, and Indiana) and the Western Corn Belt (Iowa, Minnesota, Missouri, and Nebraska) have remained remarkably stable. Except for the PIK program in 1983, Eastern Corn Belt acreage has ranged between 16.9 and 17.6 million acres during the 1980's. Western Corn Belt acreage has ranged between 20 and 23 million during this decade.

Much of the acreage that was removed from production in the Southeast and Delta has either been idled or put to less intense use such as pasture. About 7 million acres out of these regions' approximately 16 million are in farm programs. The remaining 9 million could be returned to crop production if prices warranted.

As acreage in the South declines, the higher yielding acreages in the Midwest will have greater influence on national average yields. The apparent above-trend yields of the last 3 years may reflect the decline in low-yielding acres as much as weather. Yields could remain above long-term trend because of the decline in marginal producing regions. Additional declines in U.S. acreage may have only minimal impact on U.S. soybean production.

World Oilseed and Soybean Production

The 3-year decline in U.S. oilseed acreage and the modest 1.0 percent rise in 1987 U.S. production occurred as worldwide oilseed production climbed 4.3 percent and world soybean production rose 3.7 percent.

The rise in world oilseed production is attributed to rising oilseed production in the EC-12 and South America. In the EC-12, 1988 rapeseed production is expected to climb 59 percent to 5.9 million metric tons. EC-12 sunflowerseed production has risen about 20 percent in each of the last 3 years. EC-12 efforts toward self-sufficiency have also included expanding

soybean production. Soybean production in the EC-12 has risen from only 89,000 metric tons in 1983/84 to 902,000 in 1986/87, and production is expected to reach 1,470 million in 1987/88. EC-12 policies aimed at oilseed self-sufficiency have helped shift land into oilseed production (largely rapeseed) and out of grains. Consequently, EC-12 oilseed production has climbed from 1.9 billion tons in 1975/76 to a projected 11.9 billion tons in 1987/88.

South American soybean production is expected to rise 8 percent in 1987/88. Brazilian soybean production in 1988 is projected to exceed 18 million metric tons for only the second time and acreage is expected to exceed 24 million acres. Prices for soybeans compared with corn favor soybean production in Brazil. As of mid-September, the Brazilian soybean/corn price ratio rose to 3.3 compared with 1.5 last year. Land in Brazil and Argentina will shift to soybeans.

Argentine soybean acreage has more than doubled during the 1980's. With only 5 million acres planted in 1980, production was 3.6 million tons. By 1988, acreage could exceed 9.6 million and production could total a record 8.5 million metric tons.

World Oilseed Imports/Exports

Although worldwide demand will continue to grow, supplies of oilseeds in general and soybeans in particular will be ample, barring crop failure in South America.

The Soviet Union will again be a major factor in the world oilseed market. Traditionally, Soviet buying comes early in the season and is largely complete by late spring. The shift in Soviet buying in 1986/87 to the spring and summer months was one of the major surprises last year resulting in late season strength in U.S. trade. Purchases by the Soviet Union, mostly from South America, forced other importers to turn to the United States.

Between November 10 and 19 unprecedented sales of U.S. soybean meal to the Soviet Union were reported. Sales totalled 1.3 million metric tons. Also, the Soviet Union has purchased nearly 30 million bushels of U.S. soybeans. Total Soviet purchases of soybean meal are projected at 2.6 million metric tons in 1987/88, ahead of the 2.5 million imported last season, and well ahead of imports during 1983/84-1985-86.

The Soviet Union has trade agreements with Brazil and Argentina, their preferred soybean meal vendors, and could turn to them when their 1988 crops are harvested. If Soviet purchases continue, present import forecasts could be exceeded.

EC-12 imports of soybeans and soybean meal are expected to decline moderately. Soybean imports could decline from 13.8 million metric tons to 13.2 million in 1987/88. Soybean meal imports are forecast to total 13.1 million tons in 1987/88 compared with 13.5 million in 1986/87.

Because of the drought that lowered India's domestic oilseed production, the ban on importation of oilseeds may be partially lifted. The domestic oilseed shortage leaves India's domestic crushing industry underused. India's oilseed imports are forecast at 400,000 tons, consisting largely of rapeseed and some soybeans.

High Protein Meal Demand

World consumption of the major protein meals is forecast to climb 1.2 percent to 111.2 million metric tons. But world meal exports could decline slightly as exports could reach only 35.8 million tons in 1987/88 down from 36.2 last season. The increase implies more domestic use. European livestock production is expected to rise by only 1 percent in 1987/88 and availabilities of domestic oilseed meals are up.

Most of the rise in high protein meal consumption has occurred in meals other than soybean which are estimated at 44.5 million metric tons in 1987/88, 2.4 percent above last season. The largest increases are cottonseed meal and rapeseed meal, both of which may top last year's totals by better than 5 percent.

Soybean meal consumption is expected to rise by less than 2 percent. Lack of supplies from South America is helping to constrain consumption. Brazilian domestic demand for soybean meal has climbed 20 percent during each of the last 3 years, but 1987/88 demand is pegged at 2.9 million metric tons, only 3.5 percent above 1986/87. Strong domestic use plus Soviet purchases last spring have effectively sidelined Brazil from the export market until the 1988 crop is harvested.

Early season Export Sales Report indicates that as of November 12, cumulative soybean meal sales trail last season's cumulative sales by better than 45 percent. On the other hand, the same report shows soybean sales topping last season's cumulative sales by better than 18 percent. The big decline in soybean meal sales reflects lowered sales to Italy, which is probably a result of a 60-percent rise in Italian domestic soybean production and a drop in soybean meal sales to the Netherlands. On the other hand, the Netherlands has taken 46 percent more soybeans as of November 12, 1987, compared to a year ago. Two factors may explain the change in the soybean to soybean meal mix.

- o The falling dollar has made soybeans cheap while firming oil prices, and high meal prices may have improved European crush margins.
- o Many Europeans continue to prefer soybean meal over rapeseed meal. Much of the rapeseed is still of the single-low variety making incorporation into non-ruminant rations difficult.

Consequently, much of the rapeseed could be exported to countries like India or the Soviet Union where there is demand for oil.

U. S. Domestic Soybean Meal Demand

The U. S. feed profitability ratio climbed in 1986/87 to the highest level in over 5 years. The ratio is defined as the index of prices received by U.S. farmers for livestock divided by the index of prices paid by farmers for feed. In September 1987, the ratio stood at 1.7 and had averaged 1.7 for the 12 months ending September 1987, compared with 1.51 for the corresponding period ending September 1986.

The rise in feed profitability is expected to translate into an 11-percent rise in pork production and a 7-percent rise in broiler production in 1987/88. The rise in pork and poultry production boosts the index of high-proteinfeed units to 141 for 1987/88 from 134 last season, about a 5 percent year-over-year rise.

The increase should provide the basis for record soybean meal domestic disappearance, currently projected at 21.2 million short tons. Livestock feeding profitability could decline through the course of the season but the likely demand for soybean meal is already determined, at least through next spring. Rising supplies of U.S. cottonseed will provide increased competition. However, cottonseed crush as a percentage of production is expected to drop to only 56 percent of production, an all time low. This implies substantial direct cottonseed feeding, most of which goes to dairy cattle. Direct cottonseed feed is expected to exceed 2 million short tons in 1987/88, clearly a record.

Soybean meal prices were earlier forecast to average near the \$163 a short ton price of a year earlier. Recent Soviet purchases and prospects for significant further gains in Soviet imports could push season average prices to \$165 to \$185 a short ton. It is worth noting also that Rio Grande prices for soybean meal per metric ton have jumped above Rotterdam prices in October and November. This reflects the exceptionally tight soybean meal supply situation in Brazil, which is likely to persist into the spring of 1988. Soybean meal prices are proving seasonally strong compared with last October. The reason is slightly stronger disappearance worldwide in 1987/88 over 1986/87. Expanding Soviet, Brazilian, and U.S. soybean meal use more than compensates for the lower expected soybean meal use in the EC.

World Vegetable Oil stocks Tighten--

For the last several years world vegetable oil output has been in excess of world consumption and stocks have climbed. Production has been in excess of consumption each year since 1982/83. In 1987/88, accelerated growth in oil use is expected to hold world stock of the 11 major vegetable oils near last year's level despite growth in world output.

Production of most vegetable oils will rise. However, declines are expected in world peanut oil production which are attributable mostly to Indian crop failure. Also, coconut oil production is projected to decline,

reflecting reduced Philippine output. However, increases in palm production in Southeast Asia, cottonseed in the United States, rapeseed in Europe, and sunflowerseed in the EC and Argentina will account for an overall rise in 1987/88 vegetable oil production.

The strong rise in world vegetable oil demand will work to tighten stocks. The shortfall in Indian production will make that country a larger importer of vegetable oil and oilseeds. Vegetable oil consumption in China has been growing rapidly in recent years. Domestic disappearance has risen from 3 million metric tons in 1983/84 to a projected 4.6 billion in 1987/88. Correspondingly, Chinese imports have leaped from 60,000 metric tons in 1983/84 to 761,000 metric tons in 1986/87 and could rise another 140,000 tons in 1987/88. Pakistan is expected to expand oil imports in 1987/88 as total domestic consumption continues to rise.

With demand for vegetable oil accelerating, vegetable oil prices in general and soybean oil prices in particular have "bottomed out." Examining world vegetable oil stocks plus the oil equivalent of the seeds and beans, a picture emerges of world stocks at a high but stable level. Stocks climbed until 1985/86 and have since leveled. World stocks less U.S. stocks have declined slightly since 1985/86 and will hold steady in 1987/88. U.S. ending stocks of soybean oil and soybeans on an oil-equivalent basis have risen slightly in each of the last 2 years after rising sharply in 1985/86. U.S. soybean oil ending stocks have risen dramatically from 947 million pounds at the end of the 1985/86 season to a projected 2,150 million pounds in 1987/88. The rise in U.S. oil stocks reflected the high crush to meet both domestic and export soybean meal demand.

U.S. soybean oil prices are expected to range between 15 and 18 cents a pound (\$330 to \$400 a metric ton). The firming of prices reflects a closer balance between world vegetable oil consumption and output thus stemming the tide of rising oil stocks. For the United States, an easing of vegetable oil stocks will be aided by domestic consumption that is expected to rise by 4.3 percent in 1987/88 after a robust 7.9 percent rise in 1986/87.

U.S. soybean oil export prospects have received an early season boost with announcement of nearly 400 million pounds of Export Enhancement Program oil sales to several North African countries. Strong use gains in China and crop shortfall in India also support an improved soybean oil trade outlook. These countries are likely to take substantial quantities of competing vegetable oils, like palm oil, off world markets. Presently, palm oil prices are above soybean oil prices in many markets, helping soybean oil demand.

Soybean Prices in 1987/88 Determined by Program Provisions

U.S. soybean prices are expected to be significantly higher than the \$4.50 per bushel received by growers in 1986/87. Soybean prices (Central Illinois) have averaged about \$5.14 a bushel, which is close to the Government sales

price. The September 1 stocks report that placed soybean stocks at 436 million bushels implied a commercial stock of 39 million bushels based on CCC sales and stocks reports.

With Government-owned stocks dropping sharply below last season's level to under 200 million bushels in November, prices will be pushed to the CCC sales price for much of the year. Government-owned stocks could drop below 100 million by yearend, reducing the upside barrier to prices by 1988/89. Given the soybean prices this fall, more soybeans should move into commercial stocks. Loan placements, as of October 28, were 20 million bushels, about the same as placements a year ago. Early season placements may not be a good indicator since most loans are taken in November and December. However, the 1987 crop was harvested extremely early.

Loan placements could reflect farmer expectations that with dwindling levels of Government stocks, prices could breakout on the high side later in the season. Tempering this expectation are two factors:

- 1) Large loan placements could be self-defeating in terms of raising levels of soybean stocks held under loan or in Government stocks.
- 2) If a large South America crop materializes, as is now expected, soybean price could weaken early next year.

The relatively high soybean prices experienced this fall indicate almost a short-crop price pattern. Such a pattern could emerge as a result of low free stocks of soybeans and Brazilian absence from the market, both could change as the marketing year proceeds.

Summary

The main points characterizing the World Oilseed situation are:

- o U.S. soybean production rose modestly as yields climbed on reduced acreage in 1987.
- o World oilseed production continues to surge ahead. Soybean acreage will likely rise in South America and EC rapeseed output continues to expand.
- o U.S. domestic soybean meal disappearance could be a record. Soviet meal purchases are expected to remain strong. Brazilian soybean meal exports could be limited by stronger domestic demand.
- o European meal demand will rise only moderately and more of it will be satisfied by domestic production.
- o World vegetable oil production will closely match consumption, with vegetable oil inventories stabilizing at a high level.

- o World oilseed stocks are high, and have been for 3 years, but are expected to tighten slightly this season.
- o The United States has become the world's vegetable oil pantry, holding a large share of world stocks--mostly as soybean oil and soybeans.
- o Domestic firmness in soybean oil prices reflects Export Enhancement sales--both announced and anticipated--and strong import demand from India and China.
- o U.S. soybean prices will be strongly influenced by the CCC sales price, which will reach about \$5.60 a bushel by next spring. The tightening supply-use balance in the United States and a sharp downturn in CCC-owned inventories suggest greater price uncertainty later in the season. The ultimate size of the South American crop will be crucial to U.S. prices.
- o Finally expanded Soviet, Brazilian, and U.S. domestic soybean meal use will more than compensate for lower expected EC protein use.

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THE SOY COMPLEX - AN INDUSTRY PROSPECTIVE

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Soy complex prices in the post-harvest period have risen sharply despite the best level of producer selling in this decade and reported commercial purchases of 195 million bushels of CCC inventory in the September-November period. Although the commercial coverage in soybeans is likely now through February, the strong export sales and shipments of soybeans, and historic high crush margins are contributing to an aggressively purchase program for CCC beans. With the CCC high inventory now reduced to less than the equivalent of about 1 weeks usage, commercial firms will need to rely entirely on producer sales to meet March forward requirements. Additional producer sales in calendar 1988 are likely to be triggered at flat prices of \$6.00, 6.25, and 6.50. However, the ability of producers to secure cash requirements in early 1988 through delayed PIK-roll activity in feedgrains and the use of soybean loan programs may preclude heavy farmer selling interest in soybeans. Any deterioration in South American crop prospects could bolster producers bullish attitudes.

South American soybean production prospects are bright due to sharp area expansion and favorable moisture conditions. Brazilian soybean plantings are expected to rise 12% and Argentina by 20.5%. With continuing timely rain, South American production could reach 28.8 million tonnes versus 25.5 in 1987.

The most significant demand factor in the 1987-88 crop year is again the presence of the USSR as a buyer of protein and oils. The aggressive purchases of U.S. soybeans and meal this fall when Soviet domestic oilseeds availability is at its season peak, suggests another strong year-to-year increase in Soviet imports. Total soybean and meal imports in October-September 1987-88 year on a 44% equivalent basis, are projected at 5.78 million tonnes versus 3.27 in 1986-87. Western European consumption of soybeans and meal is expected to decline by about 1.2 million tonnes on a 44% equivalent. However, because of historic high cash and board processing margins, Western European imports of soybeans are projected to rise about 450 tonnes from last year, while imports of soybean meal will fall by 1.6 million tonnes on a year-to-year basis and reflects in part increased use of sunseed and rapeseed meals. Although South American soybean exports are expected to rise sharply in 1988, especially from Argentina, U.S. soybeans are expected to reach 843 million bushels in the current crop year.

Domestic usage of soybean meal in the 1987-88 crop year is forecast at 20.930 million tons, up 500 thousand tons and largely reflects a 2.8% increase in protein consuming animal units. However, increased feeding of cottonseed and cottonseed meal will limit soybean meal feeding rates to near year earlier levels. Overall U.S. meal requirements in 1987-88 are up about 400 thousand tonnes relative to last year. However, due to an estimated increase in 1987 crop meal yields to 47.4 pounds per bushel versus 47.09 last year. Crushings on a product year are estimated at 1188 million bushels, up only 9 million from a year earlier.

During the past year, U.S. processors closed nine plants. However, this plant capacity is still included in reported industry totals. Adjusting for this loss of capacity results in a maximum weekly capacity for NSPA firms of 23.4 million bushels. Effective capacity, estimated at 95% of total, becomes 22.2 million bushels per week. The ability of the processing industry to sustain plant operations near effective capacity for a period of four months is doubtful, and plant run time could be further hindered by winter weather related problems. This projected high rate of capacity utilization required to meet demand during the December-March period is expected to maintain crushing margins at historically high levels during the December-March period.

Carry-over soybean stocks on September 1, 1989 are projected at 293 million bushels, all of which will be "free". This sharp year-to-year decline in soybean stocks is a significant market influence, but the situation in 1988-89 could be even more dramatic. Unless soybean prices rally to the \$6.75-7.00 area in early 1988, soybean acreage could again decline. With a 1.5 million acre reduction in plantings, and a yield of 33.5 bushels per acre, soybean stocks could be pulled downward to 71 million bushels on September 1, 1989. Even with this drawdown in U.S. stocks and a 1.2 million tonne further increase in South American production in 1989, protein consumption could only be maintained at the current year level.

The situation in vegetable oils during the 1987-88 crop year is clouded by the uncertainty of the extent, timing, and origin of purchases of vegetable oil by India to offset the drought induced shortfall in domestic oilseed and oil production. The ability of developing nations to increase oil purchases in 1987-88 in light of higher prices this year is questionable. However, purchases by both the USSR and China are expected to remain strong.

From an export supply standpoint, South American vegetable oil exports of soy and sun oil on an October-September crop year will likely be little changed from 1986-87, due in part to increased domestic consumption in Brazil. Malaysian palm oil production has been erratic since June, but is projected to rise by about 200 thousand tonnes in 1987-88. However, exports could rise by 400-500 tonnes via a reduction in stocks. Western Europe export availability of rape and sun oil is expected to increase sharply and will provide strong competition for U.S. and South American soy and sun oils.

Based on October Census data, the soybean oil yield in the U.S. for 1987 crop is currently projected at 10.98 pounds per bushel versus 10.84 last year. However, our temperature oil yield model had indicated a potential oil yield of 11.13 pounds per bushel. However, November and December Census data typically provides a more accurate assessment of the annual oil yield. Keep in mind each 1/10 pound change in yield alters production by about 120 million pounds on an annual basis.

Key factors in the upcoming months for the soybean complex include crop prospects in South America, Soviet buying interest in South American new crop meal and beans, the EEC decision on vegetable oil tax, India's oil buying activity, U.S. weather conditions during the first three quarters of 1988 and possible change in government programs. The markets are expected to be volatile but with an upward bias unless government programs are altered to allow expanded plantings.

ANNUAL AGRICULTURAL OUTLOOK CONFERENCE

United States Department of Agriculture
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OILSEEDS OUTLOOK - FOREIGN PERSPECTIVE

Silmar César Muller

Editor, SAFRAS e Mercado, Brazil

Ladies and Gentlemen,

The 86/87 marketing season has possibly marked the end of a long period of depression in the oilseed international market; a period characterized, lately, by a dangerous rise of the world stocks, in the wake of an ever-increasing, artificially induced production, contrasted to a virtual stagnation of demand pace for several years.

Demand, hopefully, is now improving, and the new 87/88 season begins with more optimism, showing the start of a decreasing curve of the world high stocks. This year's price recovery is a faithful indication of this new portrait, where perhaps we can find the beginning of a better balance between supply and demand.

For several reasons, however, we are still not so sure about how long the market could sustain its present trends. We are also concerned about some of the present price heating side effects.

As a South American, you will understand that I will analyse such trends from a soybean producer point of view. And this also means a protein meal point of view, more than an oil's one.

Although the meal demand has improved in 86/87 and remains good in the beginning of 87/88, the fact is that the world oilseed production is increasing once again, including soybean's; that is, also on a meal basis. Besides the United States, we are seeing a new increase in the South American crop, and even in the European output, which has been stimulated by outstanding subsidies.

European imports are slowing down, due to increasing domestic output. Furthermore, we are all afraid of a recession of the Western economy, that could affect also the commodities demand in either the medium or the long run. Although the continued Soviet participation in the meal market in the beginning of 87/88 can be met with much optimism, the trends for the medium run indicate a possible new withdrawal in the demand of this product in other countries.

It is probable that we are moving from a relatively short period, in which meal keeps heading the market, into another headed by oil. The indicators for oils, coming specially from the Asian markets, are better. And that is perhaps sufficient to keep world oilseed prices relatively attractive to the producing countries. But it raises also the risk of encouraging a new growth of the output, including soybeans'.

You are all aware that soybeans are basically meal, not oil, and our fear is that a market oriented by oil might stimulate the soybean production and crushings to the point that meal perspectives are weakened even more. Also, the faster you see prices moving up, the faster you will see demand moving down, both for meal and oil.

Today, the trends for 88/89 would appear even better than the outcome of 87/88. American stocks will be lowered further by the end of 1988, absorbed basically by the good demand we are seeing today, which is above expectations.

But you will not see such continued improvement if, together with a U.S. stock reduction, we do not have a break in the production growth rate, especially soybeans' Production, so we think, is a decisive element in the study of the trends for 88/89. If the better prices of 87/88 encourage a new and steady increase of the soybean production, we will see in 89 perhaps a new increasing curve of the world stocks, especially if combined to a possible recessive economy.

The only chance of a decrease in soybean production in 1988, however, lies perhaps in the United States. South America, besides increasing its production in 87/88, will certainly raise it again in 88/89, as we will see later.

Let's see, first, the trends in South America for 87/88.

SOUTH AMERICAN TRENDS - 87/88

The South American oilseeds production will certainly rise a lot in 88, possibly around 15 per cent, or more than 4 million tons above 87's crop. Soybean production must increase by almost 3.4 million tons, and sunflowerseed's by about 700 thousand tons, as our charts show and, by the way, will be available to whom are interested.

But South America will attempt at least not to make things worse. Exports, for sure, will not grow at the same pace of production. Our forecasts indicate that the South American exports of soybean and sunflowerseed complexes combined will rise not more than 10% or around 2 million tons. On an oil basis, that means not more than 370 thousand tons extra. On a meal basis, that means about 1.7 million tons extra.

To a certain extent, that smaller increase of exports, in comparison to the production rise, is due to the fact that South American stocks are found today in one of the lowest levels through the last years. In part, also because domestic consumption may show an increase again, at least in Brasil, if prices do not move up beyond certain limits.

Our forecasts show that the exports of soybeans must have an increase in all the three main South American exporter countries - Brazil, Argentina and Paraguay. The soybean meal exports, however, must remain relatively stable, perhaps with an insignificant growth. Soybean oil exports tend to drop, so practically neutralizing the rise expected in the Argentine sunflowerseed oil exports.

SOUTH AMERICAN TRENDS - 88/89

Now, I would also like to anticipate some trends for the next South American crop, that is, the one that will be in the market in the beginning of 89.

No doubt that the South American production of soybeans, in particular, will keep rising also in the 88/89 crop. But, except if prices go on increasing, we believe that the increase could be far smaller than the one we are having this crop.

Our first projections for 88/89 show a new increase of soybean area around 4%, counting the stimulus that South American farmers will receive from a possibly good commercialization in 88. We can see, however, that this is an increase smaller than those 13% in area we are seeing in the present crop.

One of the reasons for that smaller growth is an improvement of the corn market in 88, specially in Brazil, where Government will hardly allow a new strong switch from corn to soybeans as we saw this year.

Anyway, as you may see, South America is not expected to contribute to slow down the growing rate of world soybean production in the coming two years. And that perhaps explains why I'm still so sceptic about a definitive improvement of the world supply and demand balance in the medium term.

TRENDS FOR THE NINETIES

But I would also like to raise some ideas in terms of the long run, specially with a view to the nineties, which perhaps could bring some greater optimism to the oilseed market, and to the soybean market in particular.

From an strictly South American point of view, we believe there is still a potential growing market for the future, even for protein meals, with a better balance between supply and demand. But, certainly, we have to work for that, and hard.

First of all, we have to fight against world protectionism, which disrupts the markets by artificial growth in production. This is not good for any Country. Brazil, by the way, has removed its subsidies and, today, Brazilian farmers know that they have to become more efficient to maintain competition in the world markets. Other countries must do the same.

Particularly, I am not so afraid in terms of future. The amazing growth of the European oilseed production is a direct consequence of a policy with unrealistic subsidies, that cannot go on any longer, for being extremely expensive. What we are really worried about, are the subsidies that the United States created to fight the European protectionism. The consequences of the 85's American Farm Bill, as we can see today, neither resolve the problem of the grain surpluses in the U.S. nor those of oilseeds on a world basis. The consequence was to stimulate other grain producer countries to switch from grain to oilseeds.

Even so, the cost of this commercial war is getting too expensive even to the United States and I believe this Country, faced to its huge budget deficit, will certainly revise their present policy towards a decrease or even the complete elimination of its implicit protectionism. And that could mean an effective market oriented production in the nineties, more compatible to domestic and world demand.

Look now at the demand side. Forget Europe for a while and look at the giants of the socialist world.

The political and economic opening that has taken place in China and, more recently, in the Soviet Union, does not mean just a tendency of increasing rise in their domestic production, as we are already seeing in China. It also means the potential of a strong increase in consumption and imports.

China is not only running to be the leading vegetable oils' importer in the medium term, but also a growing consumer of protein. The Chinese production of soybeans, today below 12 million tons, will have to grow to around 20 million tons by the year 2.000, to face increased domestic demand. I believe, however, they will choose to increase grain production first rather than oilseeds, and this could mean they will not be able to surpass a mark of 15 million tons of soybeans by that time.

The Soviet Union, by its way, already shows that its huge purchases of soybeans and soybean meal in 1987 are not an isolated fact. They are to go on in 88 and will certainly continue for the coming years, as the new Soviet leaders are truly worried about improving the diet standards of their population.

Look also at Asia as a whole. There lies an increasing market not only for vegetable oils, but also a future potential market also for proteins as soon as the Asian people's diet standards improve

That is, the soybean and oilseed markets will not possibly be the same in the nineties. But what is actually changing is possibly only its geography, not its potential for continued growth.

We, South Americans, keep believing in a good market for soybeans and their products in the coming decade. And we have all reasons to believe that we shall have an even better potential to keep our competitiveness both in the present and in the new geography.

Look again at Europe. In the next decade, Brazil will be exporting soybeans also from the north, through the ports of Santa-rén and São Luiz. This is going to turn also the soybeans from the north of Brazil more competitive, allowing cheaper freights to Europe. And South Americans are trying to open a new export channel through the Chilean port of Antofagasta, that will permit to the great southern soybean region to reach the Pacific.

Now look at South America. In view of that optimistic future portrait, you will certainly imagine that South America will keep largely increasing its foreign participation in the coming decade, with more and more exports of soybeans and products. Don't be so sure of that.

Argentina has problems of space to keep rising in terms of soybeans in the long run. We believe that the soybean area in that country, currently with 4 million hectares, tends to get stable in the beginning of the nineties around 5 million hectares.

Paraguay has problems of both space and technology and, although it will go on increasing its area in the short run, I do not see that country with a better share of the world market as it has presently.

Brazil, on its turn, has much, much space to be occupied and will certainly try to occupy it. New adapted varieties will favor the continuous spreading of soybeans to new Northern tropical regions. But the soybean production in the new producer regions from the north is getting more and more expensive. With the removing of subsidies for farmers, the continuity of the production in those regions will depend, from now on, exclusively on the market.

I believe the growing rate of Brazilian soybean production in the nineties will likely to come more from the yield rate rather than from the area increase. That trend, together with the opening of new transportation and port facilities in the North, will contribute to make Brazil more competitive in the international market.

Even so, the Brazilian output must not keep pace with the foreign demand rate. Until the year 2.000, the Brazilian production of soybeans would need to rise at least to 35 million tons, the double of today's, to follow the great increase forecast in its domestic market and, simultaneously, maintain its relative share in the foreign market.

Unfortunately, even our most optimistic forecast today indicate nothing more than 27/28 million tons until the end of this century, or a 60% increase only. Maybe that is barely enough to follow the increase of the domestic consumption.

The Brazilian consumption of soybean oil, now around 1.8 million tons, will increase to at least 3 million tons by the end of the Century, facing the increasing population and better per capita demand.

The Brazilian consumption of soybean meal must rise more than oil's, perhaps reaching a mark between 5 and 6 million tons in the next 12 years, from less than 3 million tons presently.

But maybe the huge growth potential lies in the direct consumption of soybean protein products. The soybean milk, the soybean flour, the soybean texturized protein, are new products with a great way to grow in a Country where 65% of the population lack proteinaceous food and who still doesn't have purchasing power to consume noble animal proteins. We expect a new market in Brazil of one billion dollars per year for the next decade, only for those "new" products.

Facing such trends, from the 60% maximum increase of production we foresee for Brazil up to the year 2.000, a half will be absorbed by the domestic market. So, by that time, Brazil will possibly be exporting less soybeans and soybean oil than it does today, even in absolute terms. Its exports can rise only at a meal level and, even so, losing in real terms, its present share of the international market. And so is the trend for South America as a whole.

To conclude, we would like to call your attention to what is to happen in Brazil in the next decade, in terms of consumption potential of the soybean alternative products. This is also something that can occur all over the world if we try it hard. I strongly believe that soybeans are possibly the only major weapon we have to face the battle against the world starvation, since they are a low-cost protein, with a production potential easier than the one of the animal. If the whole world cannot still consume more meat - and, therefore, more meal - we must allow it to consume the very vegetable protein. If we work to make this

possible, we would certainly create new market opportunities.
And all of us shall take advantage of that.

Thank you very much.

Note: Paper prepared on the basis of situation and trends up to
November 25th, 1987.

SOUTH AMERICAN SOYBEAN PRODUCTION TRENDS
Major Producers/Exporters

	BRAZIL	ARGENTINA	PARAGUAY	TOTAL
AREA				
1970	1.319	26	40	1.385
1975	5.824	356	151	6.331
1980	8.774	2.030	400	11.204
1985	10.153	3.350	550	13.973
1986	9.186	3.650	550	13.086
1987	9.161	4.300	530	13.341
1988*	10.206	4.300	600	15.106
1989*	10.590	4.500	650	15.740
1990*	10.650	4.650	700	16.000
2000*	12.750	5.000	1.500	19.250
PRODUCTION				
1970	1.509	27	52	1.588
1975	9.893	485	220	10.598
1980	15.156	3.600	575	19.331
1985	18.279	6.750	950	25.979
1986	13.335	7.300	600	21.235
1987	16.961	7.300	950	25.211
1988*	18.770	8.815	1.020	28.605
1989*	19.665	9.225	1.140	30.030
1990*	20.020	9.675	1.225	30.920
2000*	27.500	11.000	2.700	41.200
YIELD				
1970	1.144	1.038	1.300	1.147
1975	1.699	1.362	1.457	1.674
1980	1.727	1.773	1.438	1.725
1985	1.800	2.064	1.727	1.859
1986	1.452	2.179	1.090	1.623
1987	1.851	2.000	1.790	1.890
1988*	1.839	2.050	1.700	1.894
1989*	1.857	2.050	1.750	1.908
1990*	1.880	2.080	1.750	1.933
2000*	2.155	2.200	1.800	2.140

Note: (*)- SAFRAS projections, Nov/87.

SOUTH AMERICAN NET EXPORTS TRENDS - SOYBEAN COMPLEX
in thousand tonnes

	1985	1986	1987	1988*	1989*	1990*	1995*	2000*
SOYBEANS								
Brazil (1)	3.079	842	2.500	3.000	3.250	3.200	2.600	3.000
Argentina	2.954	2.566	1.350	2.800	3.000	3.100	3.500	3.500
Paraguay	840	475	780	950	1.050	1.100	1.350	2.000
-Total	6.873	3.883	4.630	6.750	7.300	7.400	7.450	8.500
Share of World-%	30	16	20	23	22	22	19	19
SOYBEAMEAL								
Brazil	8.648	6.981	7.950	7.950	8.200	8.950	9.750	11.250
Argentina	2.600	3.100	4.000	4.050	4.300	4.400	4.800	5.050
-Total	11.248	10.081	11.950	12.000	12.500	13.350	14.550	16.300
Share of World-%	51	46	46	46	42	44	41	38
SOYBEANOIL								
Brazil (1)	830	289	970	800	850	1.000	1.050	1.050
Argentina	540	660	820	820	870	900	985	1.025
-Total	1.370	949	1.790	1.620	1.720	1.900	2.035	2.075
Share of World-%	41	34	43	40	36	38	35	29

Note: (*) - SAFRAS projections, Nov/87, based on supply/demand trends by each Country and World demand projections. (1) -Net exports (Brazilian imports of soybean an oil deducted). Years of reference are local marketing years beginning at the calendar year mentioned.

BRAZILIAN SOYBEAN & PRODUCTS - SUPPLY/DEMAND TRENDS
-in thousand tonnes-

Crop(Mkt.year)	Area H. 000 ha.	Yield Kg/ha	S.Stocks	Prod.	Imports	Exports	Crush	Other	Tot.Domestic	End.Stocks
SOYBEANS(Feb/Jan)										
87(87/88)	9.162	1.851	908	16.961	550	3.050	13.900	1.200	18.150	269
88(88/89)*	10.206	1.839	269	18.770	300	3.300	14.200	1.250	18.700	589
89(89/90)*	10.590	1.857	589	19.665	300	3.550	14.800	1.270	19.620	934
90(90/91)*	10.650	1.880	934	20.020	300	3.500	15.800	1.300	20.600	654
95(95/96)*	11.200	2.010	884	22.500	300	2.900	18.000	1.850	22.750	934
00(00/01)*	12.750	2.155	1.099	27.500	300	3.300	21.500	2.800	27.600	1.299
SOYBEANMEAL(Feb/Jan)										
87(87/88)			283	10.814	-	7.950			2.950	197
88(88/89)*			197	11.048	-	7.950			3.050	248
89(89/90)*			248	11.515	-	8.200			3.200	363
90(90/91)*			363	12.290	-	8.950			3.350	353
95(95/96)*			418	14.040	-	9.750			4.285	423
00(00/01)*			493	16.770	-	11.250			5.500	513
SOYBEANOIL(Feb/Jan)										
87(87/88)			260	2.313	80	1.050			1.780	123
88(88/89)*			123	2.670	50	850			1.850	163
89(89/90)*			163	2.785	50	900			1.900	198
90(90/91)*			198	2.970	50	1.050			1.960	208
95(95/96)*			313	3.420	50	1.100			2.350	333
00(00/01)*			353	4.085	50	1.100			3.000	388

Note: (*)- SAFRAS projections. Nov/87.

ARGENTINE SOYBEAN & PRODUCTS - SUPPLY/DEMAND TRENDS
-in thousand tonnes-

Crop/Ykt. year)	Area Pl. 000 ha.	Yield Kg/ha	S-Stocks	Prod.	Imports	Exports	Crush	Other	Tot. Domestic	End-Stocks
SOYBEANS (Apr/Mar)										
85(85/86)	3.270	2.064	278	6.750	-	2.954	3.445	335	3.780	294
86(86/87)	3.350	2.179	394	7.300	-	2.566	4.347	365	4.712	316
87(87/88)	3.650	2.000	316	7.300	-	1.350	5.500	430	5.930	324
88(88/89)*	4.300	2.050	336	8.815	-	2.800	5.500	450	5.950	401
89(89/90)*	4.500	2.050	401	9.225	-	3.000	5.800	465	6.265	361
00(00/01)*	5.000	2.200	500	11.000	-	3.500	7.000	500	7.500	500
SOYBEANMEAL (Apr/Mar)										
85(85/86)	-	-	119	2.739	-	2.600	-	-	224	34
86(86/87)	-	-	34	3.455	-	3.100	-	-	335	89
87(87/88)	-	-	34	4.370	-	4.000	-	-	300	124
88(88/89)*	-	-	124	4.370	-	4.050	-	-	300	144
89(89/90)*	-	-	144	4.610	-	4.300	-	-	330	124
00(00/01)*	-	-	150	5.565	-	5.050	-	-	500	165
SOYBEANOIL (Apr/Mar)										
85(85/86)	-	-	40	579	-	540	-	-	47	40
86(86/87)	-	-	40	729	-	660	-	-	51	58
87(87/88)	-	-	58	920	-	820	-	-	80	78
88(88/89)*	-	-	78	920	-	820	-	-	90	88
89(89/90)*	-	-	88	970	-	870	-	-	95	93
00(00/01)*	-	-	100	1.175	-	1.025	-	-	150	100

Notes: (*) - SAFRAS projections, with others sources, Nov/87.

BRAZILIAN SOYBEAN PRODUCTION TRENDS - BY STATES

	1988(a)					1987(b)			
	Var. %	Pl.int. 000 ha	Prod. 000 t.	Yield Kg/ha	!	Area pl. 000 ha	A.Harv. 000 ha	Prod. 000 t.	Yield Kg/ha
R.G.do Sul	+7/8	3.400/3.430	5.440/5.590	1.600/1.630	!	3.177	3.157	4.995	1.582
Paraná	+18/22	2.030/2.100	4.220/4.450	2.080/2.120	!	1.721	1.718	3.728	2.170
M.Gr.do Sul	+5/8	1.260/1.300	2.330/2.470	1.850/1.900	!	1.200	1.178	2.345	1.990
M.Grosso	+7/12	1.170/1.230	2.455/2.670	2.100/2.170	!	1.096	1.096	2.379	2.170
Goiás	+20/22	660/670	1.220/1.270	1.850/1.900	!	548	548	1.065	1.944
S.Paulo	+5/8	485/500	945/1.000	1.950/2.000	!	462	462	923	2.000
M.Gerais	+5/6	440/445	815/845	1.850/1.900	!	420	415	820	1.973
S.Catarina	+5/8	380/400	495/540	1.300/1.350	!	370	362	455	1.259
Bahia	+6/18	180/200	235/300	1.300/1.500	!	170	170	148	872
D.Federal	+10	50	100	2.000	!	45	44	90	2.053
Maranhão	+10	10	13/15	1.300/1.500	!	9	9	9	1.037
Others(*)	+70/130	5/7	7/10	1.300/1.500	!	3	3	4	1.519
BRAZIL	+9/12	10.070/10.342	18.275/19.260	1.815/1.862	!	9.221	9.162	16.961	1.851

Note: (a)- Forecasts. (b)- Preliminary. (*). Includes mainly Rondonia and Alagoas States.

Source: SAFRAS, Nov/87.

BRAZILIAN SOYBEAN PRODUCTION TRENDS - BY STATES

	1989(a)					1988(b)			
	Var.	Area	Prod.	Yield		Var.88-87	Area	Prod.	Yield
	%	000 ha.	000 t.	Kg/ha	!	%	000 ha.	000 t.	Kg/ha
R.G.do Sul	+2/3	3.470/3.530	5.725/5.825	1.650	!	+7/8	3.400/3.430	5.440/5.590	1.600/1.630
Paraná	+2/3	2.070/2.165	4.350/4.550	2.100	!	+18/22	2.030/2.100	4.220/4.450	2.080/2.120
M.Grosso/Sul	+5	1.320/1.365	2.440/2.595	1.850/1.900	!	+5/8	1.260/1.300	2.330/2.470	1.850/1.900
M.Grosso	+7	1.250/1.320	2.690/2.840	2.150	!	+7/12	1.170/1.230	2.455/2.670	2.100/2.170
Goiás	+5	695/700	1.285/1.330	1.850/1.900	!	+20/22	660/670	1.220/1.270	1.850/1.900
São Paulo	+3	500/515	975/1.030	1.950/2.000	!	+5/8	485/500	945/1.000	1.950/2.000
Minas Gerais	+3	455/460	840/875	1.850/1.900	!	+5/6	440/445	815/845	1.850/1.900
S.Catarina	+2/3	390/410	525/555	1.350	!	+5/8	380/400	495/540	1.300/1.350
Bahia	+5/10	190/220	285/330	1.500	!	+6/18	180/200	235/300	1.300/1.500
D.Federal	+0/10	50/55	100/110	2.000	!	+10	50	100	2.000
Maranhão	+0/	10/15	15/23	1.500	!	+10	10	13/15	1.300/1.500
Others(*)	+100/115	10/15	15/23	1.500	!	+70/130	5/7	7/10	1.300/1.500
BRAZIL	+3/4	10.410/10.770	19.245/20.086	1.849/1.865	!	+9/12	10.070/10.342	18.275/19.260	1.815/1.862

Note: (a)- SAFRAS Projections. (b)- Forecasts. (*)- Includes mainly Rondonia and Alagoas States.

Source: SAFRAS, Nov/87.

SOUTH AMERICAN OILSEEDS - MAJOR TRENDS

	1986	1987	1988*	1989*	1995*	2000*
1. PRODUCTION						
SOYBEANS						
-Brazil	13.335	16.961	18.770	19.665	22.500	27.500
-Argentina	7.300	7.300	8.815	9.225	10.500	11.000
-Paraguay	600	950	1.020	1.140	1.750	2.700
Total above	21.235	25.211	28.605	30.030	34.750	41.200
SUNFLOWERSEED						
-Argentina	4.100	2.300	3.000	4.000	4.500	5.000
-Brazil	10	10	20	40	300	500
Total above	4.110	2.310	3.020	4.040	4.800	5.500
TOTAL	25.345	27.521	31.625	34.070	39.550	46.700
2. EXPORTS						
SOYBEANS						
-Brazil(1)	1.200	3.050	3.300	3.550	2.900	3.300
-Argentina	2.566	1.350	2.800	3.000	3.500	3.500
-Paraguay	475	780	950	1.050	1.350	2.000
Total above	4.241	5.180	7.050	7.600	7.750	8.800
SOYBEANMEAL						
-Brazil	6.981	7.950	7.950	8.200	9.750	11.250
-Argentina	3.100	4.000	4.050	4.300	4.800	5.050
Total above	10.081	11.950	12.000	12.500	14.550	16.300
SOYBEANOIL						
-Brazil(1)	413	1.050	850	900	1.100	1.100
-Argentina	660	820	820	870	985	1.025
Total above	1.073	1.870	1.670	1.770	2.085	2.125
SUNFLOWERSEED						
-Argentina	517	50	200	500	600	700
-Brazil	-	-	-	-	-	-
Total above	517	50	200	500	600	700
SUNFLOWERMEAL						
-Argentina	1.400	870	1.000	1.400	1.500	1.700
-Brazil	-	-	-	-	50	100
Total above	1.400	870	1.000	1.400	1.550	1.800
SUNFLOWEROIL						
-Argentina	1.030	540	700	1.000	1.100	1.300
-Brazil	-	-	-	-	50	100
Total above	1.030	540	700	1.000	1.150	1.400
TOTAL EXPORTS	18.342	20.460	22.620	24.770	27.685	31.125

Note: (*) - SAFRAS projections. (Exports by local marketing year beginning in the mentioned calendar year).
 (1) - Gross exports.

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1988 OUTLOOK FOR FRUIT AND TREE NUTS

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The fruit industry expects substantially larger supplies of noncitrus during 1987/88. Due largely to good spring weather and increased bearing acreage, larger crops are indicated for all major fruit except grapes. Further increased production of apples, kiwifruit, pears, and tart cherries is expected in the years ahead as more trees will reach their full bearing potential. In contrast, this season's citrus crop is projected to be fractionally smaller than the previous season. However, citrus production in Florida and Texas have gradually recovered from the early 1980's freezes. Since some of the freeze-damaged trees have been gradually replaced, the downward trend of citrus acreage should diminish. Therefore, Florida and Texas stand to significantly increase production in the future. Tree nut supplies this season will be much larger than the previous season and production particularly for almonds, pistachios, and walnuts is expected to continue its upward trend.

Demand for fruit and tree nuts has been generally strong, particularly for export markets during the past season. Despite increased competition in the world market, the weak dollar and the increased promotional activities such as the Targeted Export Assistance (TEA) program have strengthened fruit and tree nut exports. Increased exports are indicated for most fresh and processed fruit to most of the regions, particularly the Pacific Rim areas during 1986/87. As a result, the U.S. fruit trade situation has improved significantly. This situation is expected to continue as long as the U.S. dollar remains weak. On the other hand, because of the slow growth in disposable personal income, domestic demand has not been as strong as foreign markets. Strong demand has strengthened grower prices and consequently, consumers have been paying higher prices this year than a year ago.

GENERAL PRICE OUTLOOK

The index of grower prices for fresh and processing fruit has averaged moderately above last year during the first three quarters this calendar year. Prices continued to advance in October, up 6 percent from September and 7 percent from a year ago. Prices were higher than a year ago for lemons and oranges, but significantly lower for grapefruit. Lower prices were reported for apples, peaches, pears, and strawberries. Overall, prices will fall

seasonally because of increased supplies. However, this season's larger crops of apples and pears are likely to cause the grower price index to fall slightly below a year ago this fall and early winter.

Table 1.--Index of quarterly prices received by growers for fresh and processing fruit, 1984-88

Year	1st	2nd	3rd	4th	Annual average
1977=100					
1984	142	170	255	239	202
1985	180	178	184	180	181
1986	150	159	178	180	167
1987	168	178	175	173 1/	174
1988 1/	162	172	174	166	168

1/ Estimated.

SOURCE: Agricultural Prices, NASS, USDA.

Marking the fourth consecutive monthly decline, the BLS September Index of Consumer Prices for fresh fruit fell slightly from August, but it was still 6.7 percent above a year ago. Through September, retail prices of fresh fruit have averaged 11 percent above a year ago. In September, apple and banana prices declined. With supplies of apples, pears, and citrus rising seasonally this fall and winter, retail prices are expected to decline further, but may average slightly above a year earlier in view of strong citrus prices and increased marketing costs.

Table 2.--Quarterly Consumer Price Index for fresh fruit, 1984-88

Year	1st	2nd	3rd	4th	Annual average
1967=100					
1984	295	321	355	343	329
1985	356	377	372	344	362
1986	352	375	386	364	369
1987	400	429	412	379 1/	405
1988 1/	405	435	420	395	414

1/ Estimated.

SOURCE: Bureau of Labor Statistics.

Retail prices of processed fruit have been above a year ago since last February. The BLS September Index of Consumer Prices for processed fruit advanced to 172.3 (December 1977=100), up 0.5 percent from August and 6.7 percent from a year earlier. With recent price hikes for Florida frozen concentrated orange juice (FCOJ) and canned fruits, retail prices of processed fruit are likely to continue to advance.

Table 3.-- Quarterly Consumer Price Index for processed fruit, 1984-88

Year	1st	2nd	3rd	4th	Annual average
Dec. 1977=100					
1984	156	162	164	164	162
1985	167	169	168	168	168
1986	166	163	162	162	163
1987	166	170	171	173 1/	170
1988 1/	175	176	177	178	177

1/ Estimated.

SOURCE: Bureau of Labor Statistics.

FRESH CITRUS

The November 1 forecast of 1987/88 U.S. citrus production (excluding grapefruit in California's "other areas") is 11.8 million tons, down fractionally from 1986/87, but up 9 percent from 1985/86. The crop is still sharply below the record production of 16.4 million tons in 1979/80. As of early November, larger prospective orange and grapefruit crops were partially offset by smaller crops of lemons and tangerines. Crops of Temples and tangelos are estimated to remain unchanged. With strong demand from processors and export markets in prospect, fresh citrus prices are likely to remain firm.

Table 4.-- U.S. citrus production, 1979/80, 1986/87, and 1987/88

Crop	1979/80	1986/87	1987/88
1,000 short tons			
Orange	11,832	7,737	7,859
Grapefruit 1/	2,986	2,397	2,493
Lemons	786	1,087	901
Temples	270	153	153
Tangelos	288	180	180
Tangerines	275	220	180
Total	16,440	11,774	11,766

1/ Excludes California grapefruit in "other areas."

SOURCE: Crop Production, NASS, USDA.

Oranges

The 1987/88 U.S. all orange crop is forecast at 183 million boxes (7.86 million tons), 1 percent above 1986/87 and 4 percent above the 1985/86 crop. However, it is still well below the record 11.8 million tons in 1979/80. The

forecast for all Florida oranges is 130 million boxes, 9 percent above both last season's crop and 1985/86, and well above the freeze-damaged crop in 1984/85. However, total Florida orange production is not expected to reach the 1979/80 record of 207 million boxes for several years, reflecting the reduced bearing acreage. Although the freeze-damaged trees have gradually been replaced, it takes several years for orange trees to reach full bearing age. California's 1987/88 all orange crop, forecast at 49 million boxes, is 16 percent smaller than last season. Arizona expects to harvest 3.05 million boxes, 3 percent less than last season, but 33 percent above the 1985/86 crop. Texas continues to recover from the freeze damage in December 1983 with an estimated crop of 1.35 million boxes, compared with 875,000 boxes last season.

On-tree returns for oranges for all sales (fresh and processing use) in October rose sharply from September and a year ago. With seasonally increased supplies and lower prices of apples and pears, orange prices are expected to fall this winter. Opening f.o.b. prices for both California and Florida fresh oranges in mid-October were well above a year ago. The sharply reduced California navel orange crop is likely to keep fresh prices above a year ago. The price hike for FCOJ will strengthen Florida processing orange prices.

Overseas shipments of U.S. fresh oranges through August of the 1986/87 marketing year (November 1986-October 1987) were strong. Exports to offshore destinations totaled 263,577 metric tons, up 4 percent from the preceding season. Prospects for U.S. orange exports may not be as bright during the 1987/88 season, because supplies of California oranges are expected to be smaller and prices are likely to be strong. However, U.S. orange exports to Japan may increase further because of the weakening dollar and an increased import quota of fresh oranges.

Grapefruit

Prospects for the 1987/88 season, excluding California's "other areas," indicate a U.S. grapefruit crop of 60.4 million boxes, 4 percent above the previous season and 14 percent higher than in 1985/86. Florida's forecast is 51 million boxes, up 2 percent from the preceding season and 9 percent above the 1985/86 season. The California desert grapefruit forecast is 4.2 million boxes, the same as last season, while Arizona's grapefruit crop is forecast at 2.1 million boxes, down 5 percent. Production in Texas continues to recover from the December 1983 freeze with the 1987/88 forecast at 3.1 million boxes, compared with 1.93 million last season. The increase in Texas is entirely attributable to rising yields because the 1987 acreage decreased to 18,500 from 19,110 in 1985. A recent Texas citrus tree inventory survey showed that a large number of grapefruit trees has been replanted since the December 1983 freeze. Thus, Texas stands to significantly increase production in the future.

Opening prices for fresh grapefruit in mid-October were strong, but prices are expected to fall with increased shipments. The f.o.b. price for pink seedless grapefruit was quoted at \$7.65 per carton in Indian River, Florida in early November, compared with \$6.69 a year ago. Domestic demand for fresh grapefruit is likely to be stable because of slow growth in disposable personal income, but export markets are expected to stay strong with the weak U.S. dollar. Movement of most processed grapefruit products has been strong and

consequently, processor demand will rise. Thus, even with a moderately larger crop, rising demand will keep grapefruit prices firm.

Lemons

The 1987/88 Arizona-California lemon crop (tree crop available for harvest) is forecast at 23.7 million boxes, 17 percent below last season, but 29 percent above the small 1985/86 crop. California expects a crop of 18.5 million boxes, 14 percent lower than last season, and 2 percent less than the 1982/83-1986/87 average. The Arizona crop, at 5.2 million boxes, is 27 percent less than the 1986/87 crop, but 3 percent more than the 1982/83-1986/87 average.

Because of the smaller crop, total movement through late-October was well behind last season's pace. The decrease was primarily attributable to sharply reduced shipments to processors, while deliveries to the fresh market were 3 percent above a year ago. Export shipments were moderately below last year's levels. Early season f.o.b. prices for fresh lemons were well above year-earlier levels in response to reduced shipments. In late-October, the f.o.b. price for fresh lemons was quoted at \$12.23 a carton, compared with \$8.26 a year ago. Lemon prices will decline as the season progresses, but the season-average price is expected to be well above last season in view of smaller supplies.

PROCESSED CITRUS

Because of the higher juice yield, Florida's 1986/87 production of FCOJ totaled 145 million gallons, up 10 percent from the previous season. Processors recovered 1.51 gallons of FCOJ per box at 42 degrees Brix, compared with 1.41 gallons in 1985/86. U.S. imports of FCOJ this season have been running moderately above last year's pace. However, imports of FCOJ into Florida have been down slightly from a year ago. According to the Florida Citrus Processors Association, imports into the State (mostly from Brazil) totaled 64 million gallons (42 degrees Brix) through late October, down 3 percent from a year ago. Even with reduced carryin stocks, the 1986/87 Florida supply of FCOJ was probably above last year, assuming imports into Florida rose during November.

Higher prices and increased competition from chilled orange juice reprocessed from the imported FCOJ have weakened movement of Florida FCOJ. Through late October, movement of FCOJ totaled 197 million gallons, down 1 percent from a year earlier. The f.o.b. price for FCOJ has been steady at \$4.46 per dozen 6-ounce cans (unadvertised brand, Florida canneries) since the price hike last March. This compares with \$4.08 a year ago. However, Florida processors raised prices on November 2 to \$4.76 a dozen 6-ounce cans following the October price increase by Brazilian processors to \$1,450 a metric ton, f.o.b., Santos, Brazil, from \$1,275. Sluggish movement has resulted in stocks as of late October moderately above a year ago. It appears that carryover could approach 40 million gallons, compared with 37 million last season. If movement remains sluggish, FCOJ prices are likely to remain at current levels through the winter, barring a freeze in citrus areas.

The larger Florida orange crop will result in increased output of FCOJ in 1987/88--approximately 151 million gallons, even with a lower juice yield. The 1987/88 juice yield is forecast at 1.46 gallons a box at 42.0 degrees Brix. However, even with the prospective larger pack and carryin stocks, the total FCOJ supply in 1987/88 will not be adequate to meet domestic demand. Consequently, imports (mostly from Brazil) will remain relatively large. The 1987/88 output of FCOJ in Brazil is currently estimated at 264 million gallons (42 degrees Brix), compared with 205 million in 1986/87. With sharply reduced carryin stocks, the Brazilian FCOJ supply in 1987/88 will be slightly less than in 1986/87.

FRESH NONCITRUS

The 1987 noncitrus crop--including major tree fruits, grapes, and strawberries is forecast at 14.1 million tons, up 12 percent from last season and 12 percent from the 1981-85 average. Larger crops are indicated for all fruit, except grapes. Good spring weather and increased bearing acreage contributed to most of the increase. A record apple crop is forecast, up 22 percent from 1986. The pear crop is estimated to be 12 percent larger, with an 8-percent increase in winter pear production. As a result, supplies of fresh apples and pears will be larger this fall and winter, and prices are likely to be lower than a year ago.

Table 5.--U.S. Production of Selected Noncitrus Fruit,
1981-85, 1986, and indicated 1987

Crop	1981-85	1986	1987	Change from	
				1981-85	1986
	1,000 short tons			Percent	
Apples	4,050	3,946	4,807	19	22
Apricots	112	55	116	4	11
Cherries	138	250	372	170	49
Grapes	5,464	5,226	5,096	-7	-2
Nectarines	188	172	190	1	10
Peaches	1,172	1,163	1,243	6	7
Pears	786	766	862	10	12
Prunes/Plums	225	490	909	284	86
Strawberries	453	510	540	19	6
Total	12,588	12,578	14,135	12	12

SOURCES: Noncitrus Fruit and Nut and Crop Production, NASS, USDA.

Apples

The final forecast for the 1987 U.S. apple crop places production at a record 9.61 billion pounds, 22 percent above last year's production and 9 percent above the 1980 record of 8.82 billion pounds. Good weather in all regions this spring contributed to heavy fruit set and larger than normal fruit

size. Additionally, young trees are entering commercial bearing age, particularly in Washington. Apple production could, therefore, increase further in the next several years if good weather prevails.

Eastern States expect to harvest 3.17 billion pounds, 8 percent above a year earlier. New York, the leading producer in the East, expects to harvest 10 percent more apples. Production in the Central States is forecast at 1.7 billion pounds, up 60 percent from 1986. All States show big gains, but Michigan, the region's leading producer, is forecast to harvest 1.15 billion pounds, up 64 percent from last year's small crop. Production in the Western States is forecast at 4.74 billion pounds, 22 percent above the 1986 crop. Washington, the Nation's leading apple producer, expects a record crop of 3.6 billion pounds, up 16 percent from 1986. However, Washington's share of the U.S. apple crop decreased to 36 percent from 39 percent in 1986.

Shipments of fresh apples are running well ahead of last year's pace because of a larger crop, an earlier harvest, and lower prices. Consequently, opening f.o.b. prices for fresh apples were reported sharply lower than a year ago at major shipping points. Prices have declined further with increased shipments. With the larger crop in Washington, fresh apple prices are expected to average moderately to substantially below a year earlier. However, the smaller California navel orange crop may moderate fresh apple price decreases somewhat. Apple prices for processing use have been negotiated generally moderately below a year ago, even though processor demand is favorable. The outlook for this year's fresh apple exports is further improved. Washington's record apple crop and lower prices should increase exports to the Pacific Rim countries. Exports to the Middle East may also rise because of higher oil prices. Overall, the weak dollar, U.S. record supplies, and promotional activities point to much improvement in all oversea markets.

Grapes

The U.S. 1987 grape crop is forecast at 5.1 million tons, 2 percent below last year's production. The decrease is primarily due to a smaller California crop which is estimated at 4.53 million tons, 5 percent below last year. Consequently, California will account for 89 percent of the U.S. total crop, down from 91 percent in 1986. Drought and other factors reduced the yield potential by lowering berry growth and cluster size. California is experiencing the driest year since 1978. However, grape production in Michigan, New York, and Washington shows strong gains. Prospects are favorable for a continued increase in grape production in Washington because of rising bearing acreage.

The smaller table grape crop has resulted in slightly reduced shipments from a year ago. However, even with reduced supplies, f.o.b. prices for fresh table grapes were weak early in the season primarily because of quality problems. In response to seasonally reduced supplies, prices have strengthened. In early November, the f.o.b. price for Emperor grapes was quoted at \$8-\$9 a 23-pound lug in the central San Joaquin Valley, compared with \$6 a year ago. Fresh market grape supplies will be down this season because of

the smaller crop. The use of table grapes for the fresh market is expected to fall from the previous season. The market for competing uses of multipurpose varieties, particularly Thompson Seedless, likely will be strong because of strong domestic wine shipments, improved demand for raisins, and the smaller crop. Marketing of this season's fresh grapes may be affected by the California table grape industry's proposal to ask retailers to post signs cautioning shoppers that table grapes may have been treated with potentially hazardous sulfur dioxide. The 1987 average grower price for California table grapes is projected to be above last year's \$419 a ton. The relatively heavy shipments of California wine and the smaller wine grape crop have also resulted in higher wine-grape prices.

Demand for domestic wine has been relatively strong. According to the Wine Institute, California wine shipments through August this year were almost the same as a year earlier. Imports of wine through July declined 10 percent, with smaller purchases from all major producing countries except Portugal. The weak dollar has resulted in higher prices for imported wine. Strong demand for domestic wine and higher prices for imported wine have held wine prices above year-earlier levels. The BLS Consumer Price Index for all wine during the first 9 months of this year averaged 3 percent above a year ago. Wine prices are likely to continue to advance because of higher grower prices for wine type grapes. The smaller 1987 grape crop has resulted in higher grower prices and wine shipments are expected to remain heavy.

Pears

The final forecast for the U.S. pear crop is 862,000 tons, 12 percent more than the 1986 crop. The Bartlett crop in California, Oregon, and Washington is forecast at 543,000 tons, up 17 percent from last year and the largest since 1982. Bartlett output is expected to rise 12 percent in California, 42 percent in Oregon, and 19 percent in Washington. Bearing acreage for California Bartletts continued to fall, while acreage was up in Oregon and Washington. Output of Pacific Coast pears other than Bartletts is forecast at 281,000 tons, up 8 percent from last year. Increased production is reported for all three States. Quality is good to excellent, but Oregon's pear sizes are slightly below normal. These pears are mostly marketed fresh during the winter and spring.

Because of larger production, shipments of fresh pears are running moderately ahead of last year's pace. F.o.b. prices for California Bartletts at shipping points have been well below a year ago. In early October, the f.o.b. price was quoted at \$7-\$7.70 a 30-pounds carton for size 100 at Mendocino County, compared with \$11.70 a year ago. In contrast, the field price for California canning pears was settled at \$180 a ton, up from \$177 last year. Depleted carryover stocks of canned pears and strong demand are the principal factors behind higher prices.

Reflecting the larger crop, f.o.b. prices for winter pears at shipping points were also well below a year ago. The f.o.b. price for D'Anjous in Yakima Valley, Washington, was quoted at \$13-\$14 a carton (sizes 100) in early

November, compared with \$21 a year ago. The larger crop and ample supplies of apples will keep f.o.b. prices for winter pears below year-earlier levels.

PROCESSED NONCITRUS

The outlook is mixed for processed noncitrus fruit during 1987/88. Even though the canned fruit pack is expected to be up for some items, depleted carryin stocks will result in tight supplies. Raisin supplies should be large because of increased output, even though carryin stocks are smaller than last season. The sharply larger prune crop will push supplies well above a year ago, even with depleted carryin stocks. The total supply of frozen fruit and berries will be much larger than last year.

Increased crops of apples, Clingstone peaches, Bartlett pears, and cherries are expected to result in more canning than the previous year. Larger crops of Clingstone peaches and Bartlett pears resulted in increased packs of canned fruit cocktail and mixed fruit. A total of 9.4 million cases (No. 24/2-1/2's) of canned fruit cocktail was packed, up 5 percent from last year, while a 24-percent increase in canned mixed fruit is reported. On the other hand, a trade estimate indicates that the pack of canned Clingstone peaches totaled 15.2 million cases (No. 24/2-1/2's), down slightly from last year. But the depleted carryin stocks are likely to keep supplies of these canned fruit items tight during 1987/88. Consequently, with higher contract prices of fruit, tight supplies, and prospective strong export demand, prices of canned fruit are expected to remain firm.

The larger apple crop from the Eastern and Central States will increase the canned apple product pack. Although data for canned apple product stocks are not available, the industry indicates that inventories are relatively small for most canned products. The industry also estimates that more apples will be processed. In addition, rising demand will continue to keep apple juice imports heavy. Rising domestic pack and imports will result in increased supplies of canned apple products. Larger supplies combined with lower contract prices for processing apples may weaken canned apple product prices even though demand is likely to be favorable.

With a slightly larger raisin grape crop and increased demand, output of raisins this season is expected to be moderately above last season. At present, trade estimates place raisin output at 321,000 tons, compared with 1986's 278,900 tons. However, even with smaller carryin stocks (including 1986-crop raisins in the growers' reserve pool), the 1987/88 supply will be large. Raisin prices are expected to remain firm in response to strong shipments and the higher field price since the surplus raisins are held in the reserve pool.

The 1987 pack of frozen fruit and berries is expected to be above 1986. Larger crops and smaller stocks of frozen strawberries early this season have resulted in sharply increased deliveries to freezers in the Pacific Coast States. In addition, a significantly larger quantity of frozen strawberries, mostly from Mexico, have been imported so far during 1986/87

(December-August). With a larger crop, 125 million pounds of tart cherries have been used for freezing through August 1, compared with 108 million a year ago. The larger apple crop is also expected to result in increased apple deliveries to freezers.

As of October 1, cold storage holdings of frozen fruit and berries totaled 911 million pounds, up 23 percent from a year ago. Increased stocks were indicated for all fruit and berries except apples and sweet cherries. Demand for frozen fruit and berries will likely stay stable in view of the slow growth in disposable personal income. Larger supplies and stable demand are likely to weaken prices.

TREE NUTS

Supplies of most tree nuts will be larger this season. Larger crops are estimated for all tree nuts except pistachios. Export demand looks favorable because of larger supplies and the weak dollar, and domestic demand is expected to improve in view of lower prices. Larger supplies are likely to weaken prices.

The 1987 California almond crop was forecast at a record 600 million pounds (shelled basis), 140 percent above last year's small crop of 250 million pounds and 2 percent more than the 590-million-pound record set in 1984. Even with sharply reduced carryin stocks, supplies will be well above a year ago because of the record crop. Looking ahead, the almond production trend is up even with the slightly reduced bearing acreage.

Early season shipments of almonds were strong. According to the Almond Board of California, export shipments during July-September totaled 112.6 million pounds, up 24 percent from a year ago reflecting increased shipments to West Germany, France, and Eastern Europe (primarily the Soviet Union). West Germany, the leading customer, has purchased 92 percent more. Eastern Europe has bought 4.9 million tons so far this season, compared with none during the corresponding period a year ago. Shipments to Saudi Arabia were 5.5 million tons, compared with none a year ago. In contrast, shipments to Japan recorded a 36-percent decrease, but Japanese demand is likely to improve. Overall, with larger supplies, the weak dollar, and continued promotional activities abroad, export markets should recover strongly from last year's low. In contrast, domestic shipments totaled 39.4 million pounds during the same period, off 22 percent from a year ago. However, with sharply lower prices, domestic shipments are also expected to improve somewhat from last season.

The forecast for the 1987 U.S. pecan crop places production at 291 million pounds (in-shell basis), 7 percent above last year and 19 percent above the 1985 crop. It is the largest production since the 1981 crop of 339 million pounds. The larger crop is primarily attributed to increased production in Georgia, Alabama, New Mexico, and Texas. Georgia, the leading State, expects a crop of 125 million pounds, 4 percent above 1986. Carryin stocks were moderately above a year ago. Thus, combined with a larger crop, the total

pecan supply will be moderately larger than the previous season. Larger supplies and lower prices for other tree nuts are likely to weaken pecan prices.

The 1987 California pistachio crop is forecast at 30 million pounds (in-shell basis), down 60 percent from last year's record 74.9 million pounds, but 11 percent above 1985's 27.1 million pounds. The decrease is primarily attributable to the alternate year bearing characteristics. Bearing acreage continues to increase, reaching 40,000 this year, up from 35,900 in 1986. During the last 5 years, California bearing acreage has increased 38 percent. Consequently, the pistachio production trend is up in the years ahead. Lower prices and the weak dollar have contributed to increased exports of U.S. pistachios. Pistachio exports (in-shell basis) totaled 2,002 metric tons during 1986/87, up 62 percent from a year ago. China and Hong Kong are the major markets. Imports of pistachios (in-shell basis) mostly from Iran, totaled 890 metric tons during 1986/87, down 93 percent from the preceding season. Purchases from Iran were drastically reduced due to a 284-percent duty on raw Iranian pistachios and a 318-percent duty on Iranian roasted pistachios. Recently, the United States government has announced to put an embargo on Iranian pistachio nuts completely. Opening prices for the 1987 pistachio crop remained unchanged from last year. Demand for pistachios during 1987/88 probably will not strengthen due to larger supplies and lower prices for other tree nuts. Thus, even with sharply reduced production, the grower price for pistachios may not rise appreciably.

The forecast for California walnuts is a record high 260,000 tons, 44 percent above last year and 19 percent above 1985. The crop is in excellent condition with set consistently high for all varieties. The California walnut bearing acreage continues to increase. Acreage rose to 182,100 this year, up from 179,300 in 1986. Yield per acre also increased to 1.43 tons, compared with 1.00 ton in 1986. Walnut production is expected to continue its upward trend. Even with sharply reduced carryin stocks, the walnut supply will be well above last year because of the record crop. Prospects for export shipments are expected to remain favorable during 1987/88 because of the weak dollar, reduced import duties on U.S. walnut exports to Europe, continued promotional activities abroad, and larger supplies. Domestic shipments are likely to improve in view of lower prices. Prices for the 1987 crop have not been established. The larger supplies and larger competing crops are likely to result in moderately lower grower prices than last season's \$1,080 a ton.

PER CAPITA FRUIT CONSUMPTION

Per capita fruit consumption in 1986 is estimated at 212.4 pounds (fresh weight equivalent), up 2 percent from 1985 and the highest in the last 16 years. The increase is primarily attributed to larger fresh fruit consumption. Per capita consumption of fresh noncitrus fruit totaled 68.7 pounds, compared with 66.2 in 1985 due primarily to an increase of 2.3 pounds of bananas. Sharply higher prices of apples and pears contributed to the increased consumption of bananas. Per capita fresh citrus consumption amounted to 26 pounds, up from 23.4 pounds in 1985, reflecting lower orange prices. Looking ahead, fresh fruit consumption is expected to rise because of increased

imports, consumer diet consciousness, and added expenses for processed fruit, particularly canned fruit.

Per capita consumption of processed fruit (fresh weight equivalent) decreased to 117.7 pounds in 1986 from 118.3 in 1985 as decreased processed citrus consumption more than offset increased processed noncitrus consumption. Processed citrus consumption fell from 92.2 pounds in 1985 to 91 pounds in 1986. Most of the decrease was attributed to FCOJ, dropping from 81.2 to 79.1 pounds. In contrast, chilled citrus juice consumption rose from 6.5 pounds in 1985 to 7.6 pounds in 1986. Several factors contributed to the growth of chilled citrus juice. Convenience and changes in lifestyle, especially the increased number of women employed outside the home, had a great impact on chilled citrus juice sales. More brand names, increased advertising, and the development of convenient packages such as plastic containers and tetra brik aseptic packages have encouraged consumption. Per capita consumption of processed noncitrus fruit rose slightly from 26.1 pounds in 1985 to 26.8 in 1986. Slight increases were recorded for all processed items, except canned juice. Canned fruit consumption reversed the downward trend in 1986, up slightly from 1985.

Per capita fruit consumption in 1987 is currently projected at 216.2 pounds (fresh weight equivalent), 3.8 pounds or 2 percent above 1986. The increase will likely be attributed to a continued increase in fresh fruit consumption, mostly bananas and peaches, reflecting lower prices. Per capita consumption of canned, frozen, chilled, and dried fruit is expected to remain relatively steady.

Table 6.--Per capita fruit consumption, 1983-87

	Total	Fresh	Canned	Chilled	Frozen	Dried
Pounds, fresh weight equivalent						
1983	209.1	91.7	19.0	8.3	79.6	10.5
1984	196.3	91.1	18.0	7.4	69.0	10.8
1985	207.9	89.6	16.2	6.5	84.7	10.9
1986 1/	212.4	94.7	16.1	7.6	83.0	11.0
1987 2/	216.2	98.0	16.0	8.0	83.2	11.0

1/ Preliminary. 2/ Estimated.

SOURCE: Economic Research Service, USDA.

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1988 OUTLOOK FOR VEGETABLES

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Overview

Higher Vegetable Supplies for 1987, Up Again for 1988

U.S. output of commercial vegetables, potatoes, and pulses will increase for 1987. Stronger demand for vegetables stimulated the higher output and helped to bolster prices for the season. The increased output of potatoes was a result of higher prices last year due to smaller output. Stronger world pulse demand and a short 1986 crop contributed to the 1987 increase in acreage and production. As demand for these various vegetables continues to grow so will the supplies (Table 1). However, a larger share will be coming from imports.

The growth in imports depends on continued strong demand, availability of seasonal labor, and implications from the pending trade bill. Strong demand for vegetables likely will continue as disposable income and population increase. As our markets abroad have shrunk over the past 10 years, growers became increasingly more reliant on growing domestic demand. However, to meet the consumers' growing appetite for vegetables in the short run, foreign supplies, primarily from Mexico, began flooding the markets. Also, U.S. fresh vegetable growers increased acreage 1.2 percent per year over the past 10 years and became more dependent on seasonal agricultural workers to help reap the increased harvest.

Utilization Trends and Outlook

Total 1986 per capita utilization of fresh and processing vegetables--excluding potatoes and sweet potatoes--was 189.5 pounds per person, farm weight basis (Table 2). The 1986 figure was 1 percent above the 187 pounds per person in 1985. Per capita use has trended upward since 1970, growing at an average annual rate of 2 percent per year. Fresh use accounted for 48 percent of total 1986 vegetable use and rose 3 percent to 90.2 pounds per person in 1986. The most important fresh vegetable has been lettuce, down 7 percent to 23.2 pounds. For 1987, utilization of fresh vegetables likely will rise as harvested acreage and imports are expected to be higher.

Annual production changes in processing vegetables are somewhat offset by carryin stocks. Carryin stocks for both canning and freezing vegetables in 1986 fell 13 percent and thus did not offset the lower 1986 production.

Processed imports accounted for about 3 percent of supply and rose 19 percent in 1986. Canning vegetable use was 82.1 pounds per person, compared to 81.4 pounds per person in 1985. Freezing vegetable use was 17.2 pounds per person in 1986, compared to the previous year's 17.6 pounds. The outlook for use of both canning and freezing vegetables depends upon consumers' continued desire for convenience and their perception of the nutritional value of processed vegetables. However, the trend in processing use has favored freezing over canning, except for tomatoes.

Per capita use of potatoes in 1986 totaled 127.6 pounds, farm-weight basis, up 3 percent from the previous year. Fresh use increased 2 percent to 51.9 pounds, increasing its share of overall use to 41 percent (Table 2). Higher fresh use will continue to be driven by the demand for baked potatoes in food establishments. Potatoes for freezing were 45.3 pounds in 1986, level with the previous year. Frozen french fry popularity rose with the continued growth in the fast food industry. However, further gains in use likely will be softened as exports of frozen french fries jumped 35 percent in 1986 and are expected to be about 25 percent larger this year due to increased promotion through the Targeted Export Assistance (TEA) program.

Commodity Outlook

Major Fresh Vegetable Supplies Flat for 1987

Production of the 10 major fresh vegetables (asparagus, broccoli, carrots, cauliflower, celery, sweet corn, lettuce, onions, tomatoes, and honeydews) for 1987 likely will be nearly level with the 215.3 million cwt in 1986 (Table 1). Projection for fresh vegetable production through 1990 show a trend increase of 1.3 percent per year increase since 1987. Based on 1987 seasonal acreage estimates and 3 year average yields, production is expected to be about 215 million cwt. Acreage estimates showed fresh vegetable growers harvested 6 percent more area during the winter, 2 percent more in the spring, 3 percent more this summer, and 3 percent more for the fall. Total 1987 acreage is expected to be about 3 percent above the 1.1 million acres harvested in 1986.

The larger 1987 fresh vegetable acreage was attributed to strong grower prices throughout 1987. The grower price index for fresh vegetables likely will be 135 (1977=100) for the year, 8 percent above last year. Prices were stronger early in 1987 from low 1986 fresh supplies. The lower fresh vegetable supplies were mainly due to lower Mexican shipments. Firm grower prices for fresh vegetables indicated that the demand for fresh vegetables has indeed increased. Evidence of stronger demand is also revealed in retail produce sections which have increased their square footage and lead in stores' profitability.

The outlook for the 1987 fourth-quarter fresh vegetable grower price index portends a 3 to 5 percent increase over 126 (1977=100) in the same period last year. Normally fourth quarter prices average 5 percent above third quarter prices. However due to this year's unseasonably high prices, the fourth quarter is expected to drop 5 to 6 percent below last quarter's average of 128 (1977=100). The 1987 season's average grower price index for fresh vegetables likely will be 138, 8 percent above 1986. Prospects are for 1988 grower prices to be 2 to 4 percent higher than 1987, as consumers' demand is stimulated by increases in incomes and population.

Strong 1987 prices have also continued to encourage imports of fresh vegetables. Fresh vegetable imports likely will be 3.3 billion pounds in 1987, up 6 percent from 1986. The majority of fresh vegetable imports arrive from Mexico during the winter months due to their climatic and geographic advantage. Mexican imports likely will continue to rise over the next several years due to their labor advantage and their need for U.S. dollars.

Fresh and frozen vegetable imports from the Caribbean Basin Initiative (CBI) countries also likely will rise 1 to 2 percent this year, compared to 239 million pounds in 1986. These countries are not likely to play a major role in U.S. fresh vegetable imports. However they are developing their market niches, which likely will continue to prosper as long as U.S. demand for vegetables continues to increase. For example, Guatemala only accounted for 1 percent of total U.S. fresh and frozen vegetable imports in 1986, yet they hold the lion's share of fresh baby vegetables imported into the United States.

Specialty Vegetable Supplies Increase in 1987

Shipments by U.S. growers of specialty vegetables (Orientals, Mexican, tropicals, and other unusual vegetables) to date during the 1987 marketing year are 13 percent ahead of this period last year, reflecting the 13 percent annual growth rate in these vegetables between 1980 and 1986. Although the volume of the major vegetables is much greater than specialties, specialties are only 3 percent of total shipments, the annual growth rate of the major vegetables between 1980 and 1986 was only 2 percent. The appearance of unusual vegetables on restaurant menus in recent years, plus the increasing numbers of Americans who travel and try new foods abroad, has piqued consumer interest in trying specialty vegetables at home. Also, recent immigrants from the Caribbean, Central America, and Southeast Asia brought their crops with them and are influencing the American diet.

Oriental vegetable shipments, the largest of the specialty category, increased from 37,000 cwt in 1980 to 188,000 cwt in 1986, a 23 percent annual growth rate. Shipments of Romaine lettuce have grown from 737,000 cwt in 1980 to 2.3 million cwt in 1986 and other unusual lettuce varieties increased from 417,000 to 2.3 million cwt during this period, while the major variety (Iceberg) declined from 61 million to 55 million cwt. Red peppers and other unusual pepper varieties increased from 357,000 in 1980 to 834,000 cwt in 1986, a 12 percent annual growth rate, while the major pepper (Bell) grew only 3 percent annually during this period.

As with the major vegetables, domestic production of specialties is concentrated in California and Florida, although growers all over the country have begun to experiment. Statistics on production of specialty vegetables is not available from the National Agricultural Statistic's Service (NASS), but several State reports show increasing production of these vegetables. The California Agricultural Statistics Service, for example, shows steadily increasing production of unusual varieties of melons since 1982. Casaba and Santa Claus melon production have climbed from 281,000 cwt in 1982 to 437,000 cwt in 1986 and Crenshaw melons increased from 147,000 to 240,000 cwt during this period.

Statistics on shipments are limited to only a few specialty vegetables, although hundreds of specialties are being produced for small markets. Examples like,

Fiddlehead ferns, chanterelles, edible flowers and herbs, and paw paws are being produced in Michigan; Celeriac, French shallots, and Chinese kale are being produced in Texas; and Virginia growers are producing Shiitake mushrooms.

A University of California study projects that domestic per capita consumption of produce will increase at a faster rate than the demand for total food, with consumers showing increasing interest in specialties. Also, supermarkets are becoming increasingly sophisticated in their display and marketing of specialties, using educational materials and recipes to boost sales. Problems such as thin markets, adaptable varieties, and unique post-harvest handling remain, but consumer interest and opportunities for growers in specialty produce are likely to continue.

1987 Contracted Processing Production Up

Contracted production of the four major processing vegetables (snap beans, sweet corn, green peas, and tomatoes) in 1987 rose 5 percent to 11.5 million tons (Table 1). Processing vegetable production is projected to increase about 1 percent per year between 1987 and 1990, about equal the rate of population increase. All four crops increased output, with sweet corn output leading with an 8 percent gain. Larger contracted area and higher yields than last year contributed to the across the board gains.

The 5-percent larger 1987 production will translate into larger packs for all items. Larger packs combined with smaller average carryover stocks, except tomatoes, will place 1988 supplies slightly above 1987. In the case of processing tomatoes, supplies likely will be 2 to 3 percent larger in 1988, which on a per capita use basis is about 1 percent above the previous year.

The 1987 producer price indexes (PPI) for both canned and frozen vegetables likely will be above the averages in 1986. The canned PPI likely will be 2 to 3 percent above last year's average of 245.5 (1967=100). The frozen PPI likely will be one half to one percent above last year's average 298.5 (1967=100).

Prices for both canned and frozen vegetables likely will remain strong for 1988, as stocks have been drawn down and exports of these vegetables likely will continue to rebound. Exports of canned vegetables likely will rise about 10 percent above the 311 million pounds exported in 1986. Exports of frozen vegetables, excluding frozen potatoes, likely will be about even with the 79 million pounds in 1986. However, this level will be 20 to 25 percent above the levels achieved in the mid 1980's. The majority of the frozen and canned exports, about 50 percent, are now going to Japan, as these Pacific Rim countries have been targeted for U.S. export promotion.

The growth in imports by the Pacific Rim countries was spurred by funds generated in the 1985 Food Security Act to help U.S. commodity groups open new markets worldwide. This year, produce organizations can expect to receive about \$24 million from the TEA. In 1988, the Foreign Agricultural Service (FAS) of the U.S. Department of Agriculture plans to promote processed sweet corn exports through the TEA. This promotion program, according to FAS, is intended to help offset the adverse effects of the European Community's tariff preferences on U.S. processed sweet corn exports. Promotional assistance will be in the form of generic marketing certificates for commodities owned by the Commodity Credit Corporation (CCC) for up to 50 percent of a firm's costs for approved promotional activities.

Potato Production for 1987 Rises

Total 1987 potato output was estimated to be 386 million cwt, 7 percent above last year's 362 million cwt (Table 1). Table 1 includes trend projections through 1990. The 1987 fall crop was estimated at 343 million cwt, 8 percent above last fall. Acreage harvested rose 5 percent for the year to 1.28 million acres.

The larger 1987 fall crop softened grower prices for the new 1987/88 season. The 1986/87 season average grower price was \$5.44 per cwt, 28 percent above the previous season. Prices received by growers likely will continue to fall slightly as the new season progresses. The weaker market likely will not dampen acreage expansion for the 1988 winter and spring crops, as these crops are not stored and are also mostly exported to Canada.

A larger 1987 fall potato crop will drive up the stocks of potatoes. However, stocks heading into the fall were not burdensome for growers and with the strong export demand, grower prices for the new season likely will not fall below 1988's \$4.26 per cwt. That was the season average price for the 1985 record crop.

Exports of frozen french fry potatoes likely will be 25 to 30 percent above the 172 million pounds in 1986. Frozen french fries and dehydrated potatoes accounted for 88 percent of all 1986 frozen potato exports. Japan and other Pacific Rim countries account for the growth in frozen french fry exports. A weak dollar combined with the TEA program have bolstered exports of frozen potatoes to the Pacific Rim countries. With the TEA program slated to continue promoting commodities abroad, exports of frozen potato products likely will remain strong and help to strengthen the new season prices.

U.S. demand for potatoes for processing has been rising, due to growth in the fast food industry, which was 75.7 pounds per person in 1986. With the 1987 fall crop up 8 percent, processing potato utilization likely will increase 2-3 percent in 1987. Gains in the demand for freezing potatoes has outpaced that of fresh, canning, chips and shoestring, and dehydrating.

Fresh use also rose in 1986 to 51.9 pounds per person and accounted for about 41 percent of total potato use. Fresh use has rebounded as consumers' opinions of fresh potatoes have improved and retail establishments offer them in a variety of selections.

Dry Bean Production Jumped 13 percent for 1987

Production of dry edible beans in 1987 was estimated at 25.9 million cwt, 13 percent more than 1986 (Table 1). Table 1 includes trend projections for dry bean production through 1990. The large increase stems more from yield improvements than from increased demand. However, area devoted to dry beans has increased as it has become more profitable than other row crops and exports have increased.

Last season the ratio of dry bean prices per hundredweight to corn prices per bushel jumped to the highest level in at least two decades. Growers of field crops like corn have been facing low prices and are seeking to improve their cash flow. Dry bean prices were \$17.98 per cwt for 1986. So far this season, prices averaged \$17.92 per cwt, up 4 percent from the comparable period last year. Grower prices for this season are not likely to average above last seasons.

Another important driving force for the increased acreage this season was the uptrend in world trade. Import demand continues to rise in South Asia, the Mideast, and Africa. Improvements for the average diet in developing countries and more widespread consumer acceptance of foods made from beans is bolstering demand.

U.S. exports of dry beans for 1987 likely will rise 15 to 20 percent above 928 million pounds in 1986. This level will not match the peak in exports of 1981, but will be the largest export since then. Exports of pinto beans, for 1987 the largest class exported, likely will double compared to 256 million pounds in 1986. The top market was Mexico. Gains in other markets were to Angola, Algeria, Mozambique, South Africa, Yugoslavia, and Haiti.

Table 1.-- U.S. vegetable production of the major items, 1980-90 1/

Year 2/	Fresh	Processing	Potatoes	Dry beans
Million cwt				
1980	190.6	9.6	303.9	26.7
1981	195.0	9.2	340.6	32.8
1982	206.5	11.2	355.1	25.6
1983	197.9	10.3	333.9	15.5
1984	217.1	11.4	362.6	21.1
1985	217.9	11.1	407.1	22.2
1986	215.3	11.0	361.5	22.9
1987	214.9	11.4	385.7	25.9
1988	217.7	11.5	389.9	26.2
1989	220.6	11.6	394.1	25.6
1990	223.5	11.7	389.4	26.9

1/ Includes asparagus, broccoli, carrots, cauliflower, celery, sweet corn, lettuce, onions, tomatoes, and honeydews. 2/ National Agricultural Statistics Board through 1987, projections there after.

SOURCE: Vegetables, NASS, USDA

Table 2.-- Per capita utilization of vegetables, 1980-86

Year	Vegetables			Potatoes	
	Fresh 1/	Canning 2/	Freezing 3/	Fresh	Processing 4/
Pounds - farm weight basis					
1980	80.7	84.6	15.7	48.5	64.4
1981	79.3	79.6	15.5	43.7	66.9
1982	82.3	79.0	14.6	49.2	69.2
1983	82.8	79.5	15.7	49.5	68.5
1984	87.6	85.2	18.0	44.9	71.6
1985	87.9	81.4	17.6	47.7	76.0
1986	90.2	82.1	17.2	51.9	75.7

1/ Includes asparagus, broccoli, carrots, cauliflower, celery, sweet corn, lettuce, onions, tomatoes, and honeydews. 2/ Includes snap beans, carrots, sweet corn, green peas, and tomatoes. 3/ Includes snap beans, broccoli, carrots, cauliflower, sweet corn, and green peas. 4/ Includes canning, freezing, chips, and shoe strings, and dehydrating.

SOURCE: Economic Research Service, USDA.

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IMMIGRATION REFORM: THE FIRST YEAR

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The Immigration Reform and Control Act of 1986--known as IRCA--has been labelled by some as the most far-reaching labor relations act ever passed by the United States Congress.

While that may be an overstatement, it certainly appears that IRCA may have a profound effect upon labor-intensive agricultural production. Congress apparently recognized the potential impact of this law because IRCA contains two programs designed to assure an adequate labor supply for agriculture. No other industry was given such consideration.

There are three major aspects of IRCA: employer sanctions, legalization, and the agricultural programs, which include the H-2A Temporary Foreign Worker Program and the Special Agricultural Worker program. In addition, certain provisions of the new law are intended to prevent discrimination in employment based upon a person's national origin or citizenship status.

For the first time, employers who continue to hire unauthorized workers will be penalized with increasing levels of fines--ranging from \$100 for a failure to verify employment eligibility to \$10,000 for each unauthorized alien after the second offense. These stiff penalties are intended to reduce illegal immigration through the elimination of attractive employment opportunities.

The legalization program recognizes that many aliens who entered this country illegally years ago have set down roots and have become productive members of American society. Legalization is available for those who have resided in the United States continuously since January 1, 1982, are healthy and law-abiding citizens, and are able to be financially self sufficient.

Regarding agriculture, IRCA was intended to streamline and facilitate the former H-2 temporary foreign worker program with a revised program to be called H-2A. Under H-2A, farm employers who experience a bonafide labor shortage may import foreign workers on a temporary basis under terms and conditions which will not have an adverse effect upon U.S. workers similarly employed.

An employer desiring to utilize this program must:

--apply to the Department of Labor for a certification of the existence of a labor shortage;

--agree to offer an enhanced minimum wage rate, approved housing at no cost to the worker, subsidized meals and free transportation;

--test the labor market by engaging in a positive recruitment effort locally and in other states to publicize the terms and conditions offered;

--employ domestic and foreign workers under similar terms and conditions; and,

--offer certain protections and guarantees as specified by law and regulations.

Recognizing that the highly structured H-2A program would not meet the needs of many growers of perishable crops who had critical and unpredictable labor demands, Congress also provided a Special Agricultural Worker (SAW) program which affords temporary legal resident status to former field workers in fruits, vegetables and other perishable commodities.

Under this program, workers formerly engaged in certain field work in specified crops for a period of at least 90 days in the year prior to May 1, 1986 may apply for adjustment of status. From temporary legal resident status, SAW workers may become permanent legal residents and ultimately naturalized citizens. Alternatively, they may continue to commute to this country for the crop season while maintaining their permanent residence in their native country. Once achieving legal status, SAW workers are free to work in any industry or occupation they choose.

Anticipating that many SAW workers, like their American counterparts, may leave farm work for less arduous year-round jobs in non-farm industries, IRCA provides for Replenishment Special Agricultural Workers (RAWs) from 1990 through 1993. To maintain their legal status, RAW workers will be required to work for at least 90 days a year in qualified crops for 3 years.

To provide a transition from dependence upon illegal alien workers to the absolute prohibition of unauthorized workers, IRCA contains a moratorium on penalties until December 1988 for those employers whose workers are eligible for the SAW program. During this period, these employers may continue to employ illegal aliens without fear of penalty although the aliens, if not applicants for adjustment of status, may be subject to deportation.

With this background, let's now look at how IRCA is working, with a look at the future.

Much has happened during IRCA's first year. Considering the enormous task this legislation gave to the government, I believe that the effort has gone remarkably well. I recall a recent tv interview with the president of a large fast food chain in which much was made of the fact that his company had opened 65 new stores during the past year. A remarkable undertaking, but a process they had been repeating over and over for many years. How does that compare to the Immigration and Naturalization Service opening 107 new offices in a period of less than 6 months? And with no prior experience, and despite several lawsuits! During this period other agencies such as USDA, the Departments of Labor, Justice, Health and Human Services, and State, the

Equal Employment Opportunity Commission, and the Social Security Administration have also promulgated new regulations and developed new programs under IRCA. This effort required a well-coordinated and integrated effort by the various agencies and much of the credit for this should go to the INS Commissioner and Deputy Commissioner, Alan Nelson and Mark Everson.

By the end of the first 6 months of operations, or 1 year from IRCA's enactment, we were approaching the level of 1 million legalization applications--800,000 for general legalization and 200,000 SAWs. Employers throughout the nation were given forms and instructions for compliance with the new law. Many thousands of employers have received compliance visits by INS and the Wage-Hour Division of the Labor Department. A number of these have resulted in warnings, and in a few instances, a subsequent visit has resulted in citations and the assessment of penalties.

By and large, the nationwide supply of agricultural labor this year has been less plentiful but adequate. A notable exception was in the Northwest in June, the first month of the SAW program. With record production and reduced illegal immigration, millions of pounds of strawberries and cherries were lost in Washington and Oregon due to an inadequate labor supply. This condition was resolved, and by the time of the record fall apple harvest, the labor supply was adequate. Indeed, due to unseasonably warm weather, the apple harvest was delayed and a brief labor surplus occurred in that area.

With a year to go in the transition period, it is still too early to predict whether sufficient workers will be adjusted under the SAW program to meet the labor needs of producers of perishable crops. There is general consensus that the industry was still dependent upon illegal workers during the 1987 season. However, with almost 200,000 SAW applications made during the the first 5 months of the 18-month program, it could be argued that we are on schedule to meet anticipated labor needs. But I don't hear any farmers making that argument!

Of the first 200,000 SAW applications, less than 4,000 were made by workers outside the United States. This number is far less than anticipated and for reasons which are less than clear.

Contributing factors include the difficulty of publicizing the program abroad and the natural resistance of foreign leaders to emigration of their citizens. Some interesting rumors and anecdotes have surfaced in this regard. One of the first stories we heard was that the program was merely a deception to lure aliens to reveal themselves so they could be jailed or deported. Another was that it was a trick to get employment information to aid in collection of back taxes. Still another was that the program was a ruse to get aliens to come into the United States, be drafted into the Army, and sent to Nicaragua. One INS legalization official found it necessary to bring a group of community leaders for a tour of the office in order to dispel the rumor that the back room was a jail cell from which aliens were loaded into trucks each night.

On the other hand, not all illegal aliens are paralyzed with fear of government officials. One group of illegal aliens calmly came to our office to explain to Assistant Secretary Ewen Wilson how they wished the SAW program to be operated and to express their concern that their commodity would not qualify for the program. At that

time they were at risk of deportation; however, upon leaving they gave me their names and addresses in case I wanted to contact them later.

Even though the season is over in most farming areas, domestic SAW applications continue unabated. It is anticipated that increased activity will occur toward the end of the application period as many aliens may hold off and then come in prior to the final deadline. Many observers feel that with the transition period without employer penalties still in effect for qualified employers through next year, labor supplies will likely be adequate during the 1988 season. Many employers are concerned about 1989 because sanctions will then be in effect and the first year of the replenishment program will still be a year away. The major concerns are whether the number of eligible SAW applicants will match the industry's level of dependence upon foreign workers and, if so, whether these workers will remain attached to the agricultural labor force. An unknown factor is whether non-agricultural industries, presently utilizing illegal workers, will attempt to "raid" the agricultural work force and to what degree will they be successful. There are scattered reports indicating that this may already be evolving.

To date, there has been no significant increase in the use of the H-2A temporary foreign worker program. Several reasons can be cited. It normally takes months to prepare for and submit an H-2A application and the new regulations did not become effective until June when the season was well underway. The new Adverse Effect Wage Rates were immediately challenged by AFL-CIO v. Brock, creating temporary uncertainty as to what the required wage rates would be. For the most part, the requisite work shortage did not occur due to the transition from the use of illegal aliens. The lack of interest in new H-2A applications this past season demonstrated once again that, contrary to criticism from some quarters, farm employers consider the temporary foreign worker program to be quite expensive and useful only as a last resort.

Concern about the sufficiency of SAW applications and the degree of attachment of the newly legalized workers to the agricultural work force has stimulated some long range interest in the H-2A program. Employers are seeking information regarding the operation of the program, the requirements for housing approval, and are reported to be joining H-2A employer associations. At this time, however, we are aware of only one substantial group of employers actually preparing a new H-2A application. It is probably significant that these employers are engaged in commodities not eligible for the SAW program and operate in an area which has had very few SAW applicants.

I hope I've been able to give you some understanding of this far-reaching legislation and perhaps some insight to its potential effect upon the agricultural industry. In closing, I offer some personal observations about the future of labor-intensive agriculture in the post-IRCA era.

Various studies indicate that with fewer young workers entering the workforce and with the projected growth of industry, we may expect greater competition for low-skilled workers in the future. This may mean that domestic workers may continue to leave the agricultural work force, and that the agricultural industry may be less able to compete for workers than at present. The trend toward fewer new workers, combined with the effects of immigration reform suggest four possible alternatives:

1. The Special Agricultural Worker program may generate sufficient numbers of legal workers to meet the labor demands of the perishable crop segment of the industry, and employers may develop mechanisms to retain this labor force and use it more efficiently
2. The industry may become more dependent upon seasonal supplemental foreign labor.
3. New developments in mechanization may reduce the demand for labor.
4. American producers may have to give up market share of labor intensive crops to less developed countries with lower labor costs.

An additional alternative is, of course, that some combination of these four will be the real result. At any rate, it will be very interesting to watch future developments regarding agricultural labor, and it will be of vital importance to a large segment of the American agricultural industry.



OUTLOOK FOR INTERNATIONAL TRADE IN FRUITS AND VEGETABLES

Dr. A. Desmond O'Rourke
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The title of this section and of my talk relates to the outlook for international trade in fruits and vegetables. However, if we are looking forward 10 years or 20 years, it is probably more appropriate to focus on the global market in fruits and vegetables.

The term "international trade" suggests that there is a part of our business that is labelled "domestic" and that is immune from international influences. In fewer and fewer commodities is that true. And, as progress is made in reducing subsidies and barriers to trade and harmonizing phytosanitary and other regulations between nations, all of the business of fruits and vegetables will be conducted in a global market, wide open to international influences from every corner of the globe.

What then is the outlook for the U.S. fruit and vegetable industry in the global market that is surely coming? To answer that, I will look a little bit at history, and speculate a lot about the future.

Fruits and vegetables have become a buzzword throughout the U.S. as the way in which agriculture can escape the surpluses, depressed prices and restrictive government programs of bulk commodities like grain. The gross returns per acre look relatively attractive for fruits or vegetables compared to wheat or corn. We are all aware of the favorable omens for fruit and vegetable demand - salad bars, deli trays, support from medical authorities, etc. However, what is pointed out less often is that the bearing acreage of fruits in the U.S. has remained virtually unchanged in the last decade, while the acreage of vegetables has actually declined by 6.5 percent. Clearly, the rewards for plantings of fruits and vegetables have not been as rosy as might first appear.

In the last decade, world production of fruits has grown at about the rate of population growth. The big three staples, apples, oranges and bananas, have provided an increased share of world fruit supplies. Only two fruits, papayas and minor citrus fruits had increases of over 40% in the decade. Those gaining over 30% were avocados, cantaloupes, currants,

pineapples, and strawberries. Notable relative losers were apricots, peaches, pears, tangerines, grapefruit, lemons and limes, plantains and grapes.

In the U.S., fruit production actually fell in the last decade, partly due to freeze losses in citrus. Apple production rose by 19.8% and grape production by 25.8% compared to growth in the U.S. population of about 11%. In contrast, many minor fruits and tree nuts had production increases exceeding 40 percent. Apricots, pears and peaches were again relative losers.

World production of vegetables and melons just about kept pace with population in the most recent decade. Tomatoes were notable gainers and potatoes notable losers. There were sizable gains in some salad vegetables and in flavoring items such as garlic, peppers and onions. U.S. vegetable production grew at about the same rate as population, but there was a notable shift from processed to fresh market vegetables and in particular to broccoli and cauliflower.

In summary, world production of fruits and vegetables has not been exceptional, but it has still been faster than that in the U.S.. The volume entering international trade has been less than 10 percent. However, imports, in particular, have been more important to the U.S.

Consumption data is even more skimpy than production or trade data. In general, it is available for only a few advanced countries. It appears that total per capita consumption of fruits and vegetables is fairly static in Western Europe, Japan, the United Kingdom and Scandinavia with shifts away from canned uses and towards fresh and frozen uses.

U.S. per capita consumption has not shown a consistent pattern of growth in the last two decades. Fresh fruits and fresh and frozen vegetables have grown in the most recent decade while canned products have declined. And, an increasing share of U.S. consumption has been supplied by imports. While imports have grown year after year, exports reached a peak in 1981 and have declined since.

In order to project the future direction of world and U.S. production, consumption and trade, we need to have much better answers than we now do to some rather fundamental marketing questions. The need for food is both physical, psychological and social. At low levels of income, people seek cheap sources of protein and energy, such as grain and pulses. But as more of the world's population escapes subsistence levels of living, the demand for fruits and vegetables should rise.

However, at higher income levels, psychological and social factors play a more important role in determining which fruits or vegetables we eat. The motivations that underly preferences for warm versus cold, moist versus dry, bland versus spicy are very deepseated, but influential, in product choice. More and more of our eating is influenced by the occasion, whether a romantic evening for two, standard family meal, between-meal snack, community potluck, etc.

We are also familiar with a number of rationalizations for shifts in demand for specific foods, yet no one, to my knowledge, has tested these exhaustively for fruits and vegetables. Convenience has been used to explain much of the changes in food purchasing and consumption. But how do we compare the convenience of eating raw celery versus reheating frozen peas versus microwaving a baked potato? How much of the appeal of an apple is due to external color and lack of blemishes, how much to internal characteristics such as taste or texture? We do know that as incomes rise, consumers buy a wider variety of fruits and vegetables. Do they also buy an increasing number of strains? And which strains will be the big winners in the future? Finally, the agenda on food healthfulness seems to change day by day. It is being fought over by governments, medical authorities and consumer groups, but the fruit and vegetable industry has virtually no influence on how its products will be judged.

Consumers are concerned and susceptible to influence. One in seven adult females and one in fourteen adult males in 1985 were on special diets, primarily to control intake of fat, salt and cholesterol. About half of all adults used vitamin or mineral supplements, the items that a balanced intake of fruits and vegetables could readily supply. Consumer attitudes can be fickle, as shown by the drop in the percentage who regard milk as good for health.

Given all these uncertainties, it may appear foolish to speculate about the long-term outlook of the global market for fruits and vegetables. However, I think there are sufficiently strong trends underway that we can reasonably project the broad shape of things to come.

For the developing world, fruits and vegetables will continue to be a rare luxury. From the growing affluent middle class in the middle income countries, there will be increased demand for mass market staples such as apples, oranges, bananas, tomatoes and onions. For the expanding higher income (often two-income) households in the affluent countries, the demand will increase most rapidly for off-season, exotic or unique products. Fresh products will gain at the expense of processed. It is too early to tell whether the advanced countries will become increasingly vegetarian, and lesser meat eaters. I suspect that the shift will be slow initially but may speed up by the twenty-first century.

The outlook is good for suppliers of staple fruits and vegetables to the global market and for suppliers of tropical fruits and exotic and seasonal fruits and vegetables to the advanced countries which are primarily in the temperate zone of the northern hemisphere. The outlook for U.S. suppliers of fruits and vegetables is problematic. As the attached example for Washington apples shows, it may be very difficult for most U.S. suppliers to compete solely on a cost basis in external markets and it may be difficult to ward off imports in many U.S. markets. The best overseas opportunities will continue to be in Asia.

For many U.S. suppliers, the only effective strategy for competing in a global market will be justifying their higher cost by providing buyers with a superior combination of quality and service. This means that the industry must be very innovative in ferreting out and catering to the changing psychological and social needs of consumers, and better meeting the demand of buyers and users for convenience, quality, variety, novelty and healthfulness.

Despite the relatively positive demand picture, U.S. producers of fruits and vegetables will continue to face an erosion of their global market share if they attempt to compete on the basis of price. In the future, their weapons have to be better knowledge of the special needs of their customers and a willingness to adapt production, processing and marketing systems to meet those needs.

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THE SYMPTOMS OR THE DISEASE?

Thomas A. Hammer
President, Sweetener Users Association

Summary

The precipitous decline in sugar imports is simply the most prominent of the many symptoms that tell us there is something wrong with the United States sugar program. But the underlying disease is the wrong market signal sent by an excessive support price. The Sugar Supply Stabilization Act introduced by Senators Bradley and Roth, and by Congressmen Downey and Gradison, changes the signal by gradually reducing the support price over a four-year period. It would move the United States government from a position of guaranteeing the profitability of inefficient producers to one of providing a "safety net" for efficient ones. It would restore the role of competition and consumer preference in determining the mix of sweeteners in the food system. And it would let market forces work in the public interest.

Introduction

Perhaps the worst thing about the U.S. sugar program is that it has caused people here and in other countries around the world to do things that they would otherwise never have considered doing. The fundamental difficulty is that we persist in aggravating our problem by treating the symptoms rather than the disease. The costly consequences of this are all around us:

- U.S. sugar production is expanding despite the world sugar surplus.
- Yet food and beverage manufacturers have been forced to change many product formulations to use other sweeteners.
- Raw sugar producers in other countries have had to look elsewhere for a market for their product.
- Imports of sugar-containing products have surged because sugar is cheaper elsewhere.
- To make up for the harm to other countries, we are substituting aid for the trade that used to define our relationship with them.
- And even within the domestic industry, the balance between beet sugar and cane sugar seems to have been upset.

Sadly, after each treatment, the patient seems to take a turn for the worse. It is small consolation that anyone who watches what goes on in Washington can quickly tick off a long list of new prescriptions to cure these imbalances in the marketplace: production or marketing quotas, extension of drawback, various other re-export schemes, minimum quotas, preferential quota redistribution, quotas on sugar-containing products, more foreign aid, etc. But these are little more than attempts to correct effects of previous bad diagnoses. Worse, they are palliatives -- treatments for the symptoms instead of the disease.

We can no longer afford the sort of haphazard and uncoordinated responses that do little but aggravate conditions. I believe there is only one type of proposal that really strikes at the basic issue. The current sugar program says the United States will continue to guarantee the profitability of domestic sugar production regardless of economic logic or adverse consequences. The real response should say we believe in letting market forces work.

The Import Problem

The symptom that is getting the most attention is the precipitous decline in U.S. imports of raw sugar, from about 5 million tons in the late 1970's to only 1 million tons this year. Many expect the 1988 import quota to fall to 700,000 tons or less in 1988 and to zero soon thereafter. Ever since 1981 when the current sugar program was put in place, there has been major contraction in U.S. consumption of imported sugar.

Table 1 shows the consumption of various sweeteners in 1981 and in 1987. From this relatively simple characterization it is clear that the decline in imports is due to two things: substitution of other sweeteners, and expansion of domestic sugar production, especially beet sugar.

The displacement of sugar by corn sweeteners, and to a limited extent by aspartame, has been possible largely because of the price umbrella provided by the sugar program. Consequently, while sugar consumption has contracted by 1.8 million tons over the last 6 years, consumption of other sweeteners has grown by 4.6 million tons. And while sugar use has been declining, domestic production has been expanding.

As Table 1 indicates, domestic beet sugar producers have maintained their share of total sweetener use at 20 percent, while domestic cane sugar producers have lost ground slightly despite a 10 percent increase in volume. In contrast, imported cane sugar now accounts for only 5 percent of U.S. sweetener use compared to 23 percent in 1981. For comparison, imports had a 34 percent share as recently as 1978. With many expecting 1987/88 beet sugar production to expand further, perhaps to as much as 4 million tons, 1988 sugar imports could account for as little as 2 or 3 percent of the U.S. sweetener market.

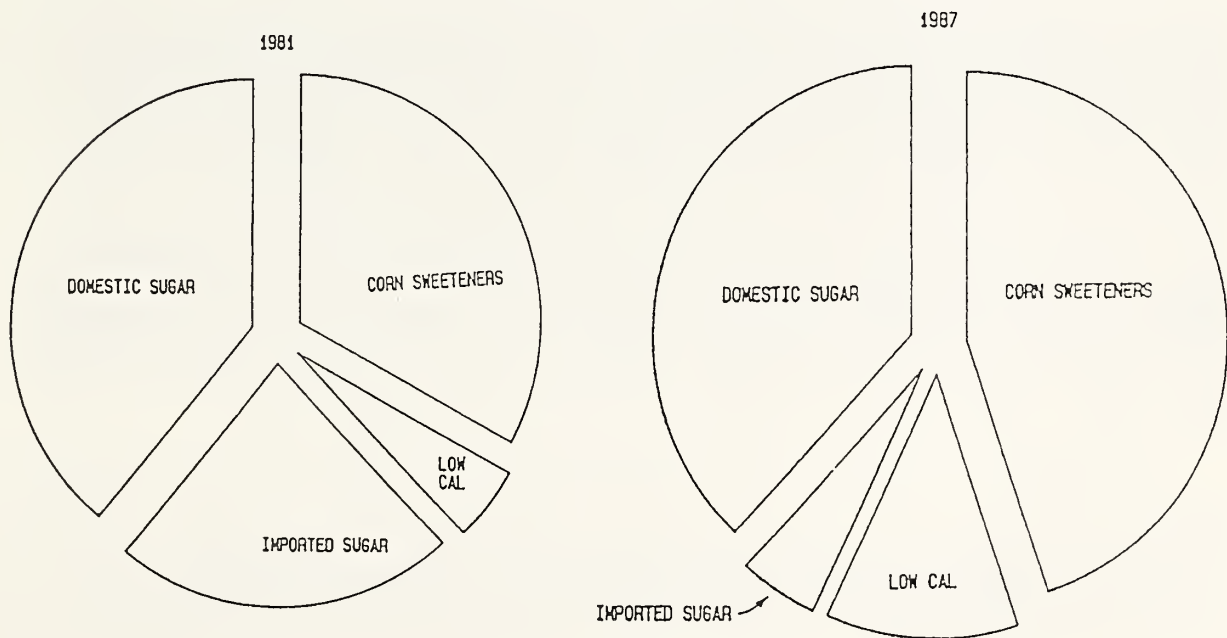
Table 1
U.S. Sweetener Use

	1981		1987	
	(mst)	(%)	(mst)	(%)
Domestic Beet	3.2	20	3.7	20
Domestic Cane	3.0	19	3.3	18
Imported Cane	3.6	23	1.0	5
Total Sugar	9.8	62	8.0	43
Corn Sweeteners	5.1	32	8.3	44
Honey and Syrups	.1	1	.1	1
Low Calorie	.9	5	2.3	12
Total	15.9	100	18.7	100

In fact, a quick look at Figure 1 tells you why the level of imports is the focus of attention: the sweetener pie may be a bit bigger, but the import slice has gotten awfully thin. All other suppliers are experiencing greater volume and stable or increasing market share. As a result, most of the proposed legislative or administrative tinkering deals with re-exports, minimum quotas, and various other quantitative controls that would keep imports from falling below some token level.

Figure 1

U.S. SWEETENER MARKET SHARES



Treating the Symptoms

Let's take a brief look at some of the pills we've tried already and at some of the medication currently being recommended.

The Quota Offset Program uses funds provided under Section 416 of the 1949 Agriculture Act in an attempt to alleviate the effect of quota losses. The program targets the Caribbean Basin Initiative (CBI) group and other sugar exporting countries with annual per capita incomes under \$1,500. USDA estimates that since fiscal 1986 these countries have lost revenues of almost \$300 million because of "adjustments" in the quota. Of course the annual revenue loss compared to 1982 exceeds \$1 billion. As partial compensation we ship them surplus CCC commodities. In FY 1987, the value of the commodities and the freight, which the U.S. government also picks up, was close to \$200 million.

Through the magic of government accounting the 416 program operates at no cost, thus meeting the Farm Bill's key criterion. And from the perspective of the recipient countries, it is perhaps "better than nothing". But substituting aid for trade can have unwanted results. No matter how much we try to keep from disturbing traditional trading patterns, such donations are going to displace commercial transactions, and they may even frustrate attempts to diversify sugar-based agriculture into other crops.

U.S. sugar refiners have paid a heavy price at the hands of the sugar program. The duty drawback provision of the Omnibus Trade Bill is an attempt to reduce the burden of adjustment. It gives importers access to drawback that might have been used during the period when quotas limited imports and no mechanism for re-exports existed. Passage would probably stave off at least one and perhaps two refinery closings. However, this would only delay the inevitable for a few short years.

An alternative method of using re-exports to maintain refinery activity and aid some quota holders has recently surfaced. The CBI-Philippines re-export plan would permit entry of up to 400,000 tons of raw sugar from the CBI and the Philippines. The sugar could come in at the domestic price but would have to be refined and re-exported. Compensation -- again, at no apparent budget cost -- for the difference between U.S. and world prices would be made in the form of generic (PIK) certificates.

As raw sugar imports have dropped, attention has also turned to limiting imports of sugar-containing products. The sugar program created powerful price incentives for producers of products that have a high sugar content. Clearly some product categories lend themselves to evasion of the quota. But as we saw in the kosher pizza fiasco, when the Customs Service barred imported products containing only minute quantities of sugar, vigorous enforcement can easily lead to ridiculous consequences.

Periodically we hear talk about reallocating quotas to benefit a few countries. The argument seems to be that the pie is now so small that a piece is almost not worth having. So, some say, why not give a really worthwhile slice to the folks who need it and let the more prosperous producers look elsewhere for export opportunities. But to turn in the direction of preferential quotas, appealing as the idea may be in some quarters, is to take the road to further distortion of the world sugar market. Moreover, it would

completely ignore basic GATT guidelines, which is something we should be avoiding here at the outset of the Uruguay round of multilateral trade negotiations.

Finally, we come to domestic production controls. If ever there was a quack remedy, this is it. Production controls and marketing quotas do nothing more than encourage inefficiency. In an era when "competitiveness" is supposed to be the watchword, this attempt to reinstate the worst aspects of the archaic Sugar Act should be rejected out of hand. It is a sign of how badly askew the current program is that this ultimately pernicious idea is even being talked about.

Taken together, these recommendations, proposed with the best of intentions to mitigate the effects of the current program, will lead the United States to self-sufficiency EC style complete with export subsidies, preferential trade arrangements, domestic marketing quotas -- all paid for by the consumer.

There is an alternative. The Sugar Supply Stabilization Act introduced by Senators Bradley and Roth and by Congressmen Downey and Gradison changes the signal. In gradually reducing the loan rate to 12 cents over four years it would move the effective U.S. raw sugar price support level from about 21.5 cents down to 15.5 cents. It would move the United States government from a position of guaranteeing profitability of inefficient producers to one of providing a "safety net" for efficient ones. It would say that we are willing to let market forces and consumer preference determine the sweetener mix in the U.S. food system rather than having the government do it. And most importantly, it would attack the cause rather than the symptoms.

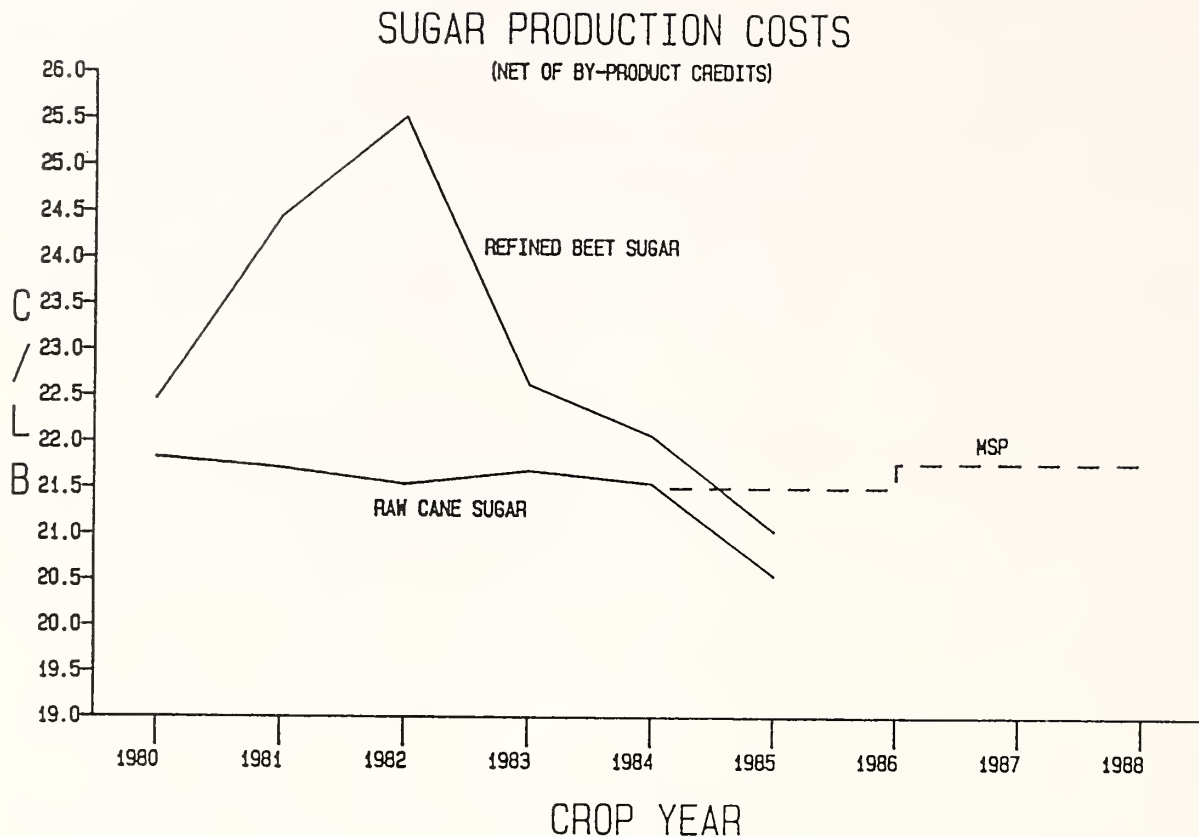
Treating the Disease

It has become very profitable to produce sugar in the United States, which is why production is growing. It is profitable because for most producers the government guarantees it. Since actual private accounting data are not available to us, we have to resort to what is available, i.e. USDA cost of production data. The USDA cost data include not just cash expenses but many other elements often not included in private cost calculations, such as full economic returns to land and capital. Yet even this information, imperfect as it is, gives us some clues as to where the problem lies.

For the 1985 crop, the average cost of producing raw cane sugar in the U.S. was 20.6 cents per pound, more than a penny below the 1981 level, but still much higher than costs in efficient cane sugar exporting countries. Production costs for refined beet sugar averaged 21.0 cents, fully 3.4 cents below the 1981 level. Data for 1986 are not yet complete since processing costs are unavailable. But at the farm level, total production costs in 1986 declined a further 5.0 percent in the case of sugarcane and 6.3 percent in the case of sugar beets.*

* USDA, Sugar and Sweetener Outlook and Situation Report, September 1987; USDA, Economic Indicators of the Farm Sector: Costs of Production, 1986, November 1987.

Figure 2



While it is to the industry's credit that it has become more efficient and reduced its costs (Figure 2), existing legislation provides no way to adjust to this change. We have now reached a point where the current MSP of 21.76 cents covers full production costs for raw sugar, transportation to market (which averages about a cent), and a little extra profit on top of that. And for beet sugar the profitability is even greater since the cane sugar with which it competes also has to be refined at a cost of about 4 cents per pound.

In view of the fact that we are supporting the domestic sugar market at a level that exceeds full production costs including returns to land and capital, it's no wonder that the domestic industry is expanding output.

The basic problem is that a part of the domestic sugar industry just does not meet a reasonable competitive standard in a world context. Moreover, our sugar program has been designed and operated so as to guarantee that those least efficient producers can cover their costs. In fact, most of the industry could compete at a much lower support level. Some producing areas have lower cost structures than others, and even within a particular state, region or company there is wide variation in costs around the average. For example, in the eight sugar beet regions in the United States, costs in the least efficient region exceed those in the most efficient region by 33 percent.

I suggested earlier that the Sugar Supply Stabilization Act is the solution to this basic problem. I will go further and say that it is also compatible with having a healthy domestic sugar industry.

Let's look at what it would involve. The Act would eventually reduce all sugar prices by about 6 cents. In the case of refined beet sugar, average f.o.b. prices would fall from 24 cents to 18 cents. Even based on USDA's 1985 figures, with by-product credits this would still cover all variable and fixed costs. And with costs having declined further since 1985, it is clear that the bulk of the beet industry would still be around. In the case of cane sugar, prices at the mill would decline from 20.5 to 14.5 cents (allowing a penny for transportation). Based on USDA data, this would cover average variable costs but not fixed costs.

What we have to remember, though, is that as inefficient producers drop out, average costs decline. There are many growers and processors out there who will be profitable even at significantly lower prices. It is also instructive that the domestic industry only began to pay attention to costs when it became apparent that the price support level would not be automatically escalated. There is little question in my own mind that a move to a lower price support level would bring even further cost-cutting efforts.

Thus, it is my belief that the Sugar Supply Stabilization Act represents a reasonable approach to sweetener policy. It would certainly be more consistent with our programs for other crops. The grain, cotton, and soybean programs are all designed to let market forces play the major role in establishing a balance between supply and demand, and among competing products. It is an approach we ought to apply to sugar. Of course producers of some of these other crops also receive direct payments on top of what they earn from the marketplace. But to get those payments they have had to idle significant amounts of acreage, become subject to payment limitations, and incur other obligations such as scheduled support price decreases.

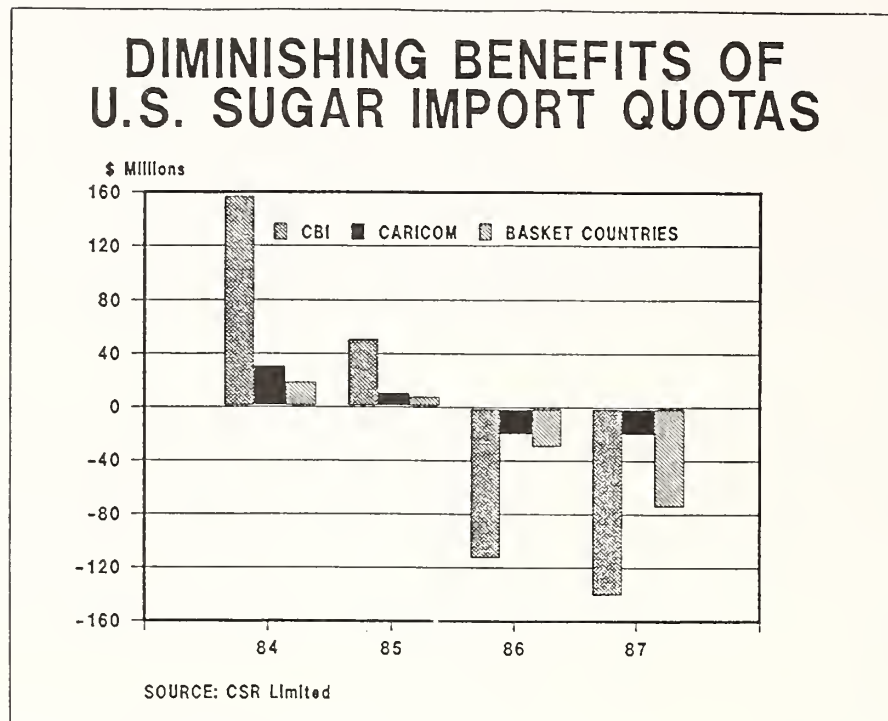
Why a Cure is Needed

I'd like to take a moment to examine the toll taken by the sugar program -- at home and abroad. The financial costs and foreign policy losses attributable to this ill-conceived policy may never be recouped. And even for some of the apparent beneficiaries there could come a day of reckoning.

After six years we may be so numb to the effects of the program that the statistics, a litany of senseless costs, have lost their ability to shock. But for exporting countries, even those which benefited initially from the quota program, the wrenching dislocation in a traditional and valued market has caused untold difficulties. The loss of income from the U.S. market and the larger world market has reduced export earnings and purchasing power. Sugar exporting countries that were once good customers for U.S. agricultural and manufactured products have gradually lost the wherewithal to purchase our exports. And when their ability even to service accumulated debt became apparent, these same countries served only to further jeopardize the stability of an already precarious world financial system.

It is true that at first some countries enjoyed a real windfall from the quota program. But as the following chart illustrates, for the poorest and most vulnerable countries, the gains evaporated quickly.^{1/} The Australian Bureau of Agricultural Economics estimates that this year the CBI countries will lose about \$139 million, the Caricom group, some of which are in the CBI, will lose \$19 million, and the small exporters in the "basket" (excluding those in the CBI) stand to lose \$70 million.

Figure 3



Using a somewhat different model of the world sugar market, an analysis done for the U.S. State Department goes further. "Net loss to quota holders in 1987 will be approximately \$800 million in current dollars. The claim that the price premium still makes exporters better off than they would be in the absence of quotas is specious."

The U.S. sugar program has been costly for others. Here at home, we have also paid a price many times over. Since 1981 declining imports have forced eight refineries to close their doors at a cost of thousands of jobs. Taxpayers haven't been let off easily either. This "no-cost" program cost ran up \$85 million in losses on subsidized exports and a fire-sale valuation for conversion to ethanol. And today, as we try to make up for the losses sustained by sugar exporting countries, CCC commodities are being shipped abroad

^{1/} The country groupings are as follows: CBI - Barbados, Belize, Costa Rica, Dominican Republic, El Salvador, Guatemala, Haiti, Honduras, Jamaica, Panama, St. Christopher-Nevis, and Trinidad-Tobago; Caricom - Barbados, Belize, Guyana, Jamaica, St. Christopher-Nevis, and Trinidad-Tobago; Basket countries - Barbados, Bolivia, Congo, Gabon, Haiti, India, Ivory Coast, Madagascar, Mexico, Papua New Guinea, Paraguay, St. Christopher-Nevis, Trinidad-Tobago, and Uruguay.

to the tune of almost \$200 million a year. But most of all, consumers have footed the bill. And what a tab it has become. At \$2-3 billion a year in higher prices, the cost of the sugar program since quotas were imposed in 1982 is now over \$18 billion and climbing.

While most of the \$18 billion in higher prices paid by U.S. consumers has been transferred to U.S. sugar and corn sweetener producers, lower world prices have created windfall benefits for other importing countries. Japan and the Soviet Union are obvious winners. The Soviets saved upwards of \$160 million on their 1986 imports as a direct consequence of the U.S. program. But not all the Russian gains have been financial. Between 1981 and 1986 Soviet imports from Central America, excluding Nicaragua, rose more than tenfold. As U.S. imports have fallen, Russian influence as a trading partner has expanded. The ties created by trade are strong -- even in commodities -- and in the long run this could be the sugar program's most damaging legacy, making losers of us all.

Conclusion

The time to change the United States sugar program is now, while we still can. Unlike other proposals that offer only short-term fixes, the Sugar Supply Stabilization Act addresses the basic problem by paring the excessively high support price down to a level that will permit competitive market forces to work. The evidence is now clear that the supposed "safety net" installed by the 1981 Act has only served to encourage domestic sugar production, and otherwise warp the domestic sweetener mix. The adverse effects of the current program on consumers, sweetener-using industries, cane sugar refiners, and United States foreign policy interests have been severe.

The Sweetener Users Association represents companies and associations that play a critical role in the United States sweetener economy. We believe that the Sugar Supply Stabilization Act introduced by Senators Bradley and Roth, and by Congressmen Downey and Gradison, is a rational, workable approach to restoring balance and competition to the sweetener sector of our economy. It is the kind of surgery needed if the patient is to survive, because additional bandaids can no longer do the job.

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BITTER MEDICINE---IN WHOSE INTEREST?

Eiler C. Ravnholt
Vice Chairman, U.S. Sweetener Producers Group

The U.S. sugar program is a major success story. It has permitted the domestic sugar industry to survive in a period of almost unprecedented disaster in American agriculture. It has done so virtually without cost to the U.S. government -- but certainly not without attack from the industrial users of sugar and from the Eastern establishment press.

While I would be more comfortable addressing the economics of U.S. sugar policy I feel compelled to respond to its many criticisms stimulated by the opponents of that policy, the industrial users of sweeteners.

The User's Washington lobbying arm, the Sweetener Users Association, includes among its members many of our nation's most profitable companies. They are also among our country's largest advertisers and this provides them with a distinct advantage in the public relations arena in their campaign to discredit the sugar program. They are apparently firm believers in the principle that if you tell big enough lies, and repeat them often enough, a good share of the public will believe them and the rest will be confused.

Their media advantage has permitted them to picture the current sugar program as a \$3 billion rip-off of America's 240 million consumers by a relatively few U.S. sugar producers. They have been successful in this in spite of the fact that the price of sugar to the American housewife is less than it was in 1980 and 1981, years when we had no program. Moreover, they have been successful despite the fact that housewives in most developed countries pay more for sugar than do their counterparts in the United States.

They have blamed the U.S. sugar program for the spread of communism among developing countries from the Caribbean to the Philippines. This charge is made despite the fact that these countries get the same price for the sugar sold to the U.S. market as do our producers -- more in some cases because we must transport our sugar to market in American flag ships to help assure a viable U.S. merchant marine. These countries' sales to the U.S. market are restricted but at least they get a fair price for a portion of their production, a real boon compared to their revenues from sales on the world "dump" market, where prices have been ravaged by EC subsidized dumping policies.

These countries get more than 20 cents a pound for sales to the U.S., only 8 cents for sales to the Soviet Union. Meanwhile Cuba receives more than 30 cents a pound for its sugar sales to the Soviet Union which is the world's biggest importer. I recall that the U.S. was buying nearly all of Cuba's sugar at a premium when Fidel

Castro took over and it didn't save Cuba from going Communist. It is ludicrous to suggest our current sugar policy is the cause of any spreading Communist influence in the area.

Our opponents even blame our program for forcing farmers in the CBI countries to grow pot and the raw material for cocaine because we limit our purchases of their sugar. Do they want U.S. farmers to grow the pot instead? I assure you it is possible to grow it within the U.S. and in Hawaii we can even grow coco leaves where sugar now grows.

Not satisfied with blaming our sugar program for ripping off the consumer, spreading communism and adding to the drug problem they now accuse those who enacted the program of having been "bought" by the campaign contributions of U.S. sugar growers and processors. For shame! If Congress was for sale in the '85 Farm Bill how does one explain that the losers in the bidding war -- the industrial users -- paid far more in campaign contributions than did the winners, the domestic producers of sweeteners?

With all these accusations, you may wonder why Congress enacted the current sugar program in the Food and Agriculture Act of 1981 and reaffirmed its support again by an overwhelming margin in the Food Security Act of 1985. Let me give you some of the reasons.

First, most members recognize that without a program the U.S. industry cannot survive. That is not because we are high cost producers. Congress knows that all sugar producing countries protect their farmers with a program because none can survive if they must compete with subsidized dumped sugar on the "world market." Congress also remembers that when we got rid of the old sugar program back in 1974 prices jumped to 65 cents per pound, only to drop a few years later to less than 7 cents and then increase again to more than 40 cents in 1980. Farmers can't live with such price volatility.

Second, the Congress knows that the great majority of sweetener is utilized by the giant industrial users in their products -- companies which are doing extremely well under the current sugar program. The Congressmen know that the sweetener in soft drink costs only 1.5 cents though the consumer pays 50 cents a can. They also know that there is only a penny's worth of sugar in a candy bar and the consumer isn't going to get that candy bar for less just because Hershey or M&M Mars can buy the sugar content for a fraction of a penny less. They know that these corporations increase their prices when sugar prices go up but they don't reduce them when the price of sugar drops.

Congress knows that these opponents of the sugar program are among this nation's biggest and wealthiest corporations. Coca Cola made almost \$1 billion last year -- a whopping 11 percent on sales. Kellogg made 10.5 percent. Hershey's profits were also up, equal to 7 percent on sales. M&M Mars doesn't have to publish its profits, but the family is one of the richest in America. The soft drink industry, candy, cereal and baking companies have seen the price of their stocks rise far more than the average in recent years. Congress knows that farmers have no market control over the price of their product but the same cannot be said of the sweetener user companies.

Opponents of the sugar program accuse that program of being responsible for the excessive profitability of the corn sweetener industry. I read in Milling and

Baking News the other day that Staley Continental's profits were up 81 percent this past year -- but they are still making less than 2 percent on sales from continuing operations.

The industrial users of sweeteners claim to seek a lower sugar support program on behalf of the American consumer. Yet we all know that if they were required to pass any savings from reductions in sweetener prices on to the consumer they would soon lose all interest.

I can appreciate their desire to get lower sweetener prices. After all, the pursuit of profits is the purpose of business. At the User's press conference recently Senator Roth suggested that the purpose of the 6 cent a pound reduction in the sugar loan rate being proposed was to bring back the nickel candy bar. If his interest is really the consumer his vehicle is certainly ill chosen. The farmer is getting a smaller and smaller share of the food dollar, now only some 25 cents. It remains a mystery to me why some who profess an interest in the welfare of the consumer join forces with those who receive the biggest share of the food dollar and try to squeeze yet another penny out of the American farmer.

In the 1970's the soft drink industry -- the largest user of sweeteners -- successfully lobbied the Congress for an exemption from the exclusive franchise prohibition in our nation's antitrust laws. These Users seek ever higher profits at the expense of consumer and raw material supplier alike. If they are so dedicated to free trade let us start by repealing that exemption.

The industrial users are not without allies in their campaign. There is a peculiar syndrome that appears to guide some of the liberal community in America. On the one hand they insist that we provide our agricultural workers with good wages, health benefits, workmen's compensation, unemployment insurance, and meet all the OSHA and EPA standards. However, if the product of these worker's labor can be purchased cheaper from some country where the pay is \$3 dollars a day with slave labor conditions and no environmental concerns and the product is then exported with subsidies, they have a right, indeed an obligation, to buy it from that source. They believe they have done their share if they have helped U.S. agricultural workers get a decent wage, fringe benefits and good working conditions -- but for goodness sake don't ask them to help pay for it by purchasing the domestically produced product if they can get it cheaper elsewhere. We produce more sugar per acre and more per man hour than they do any other place in the world but if we request that our costs be covered in the market place that is a consumer rip-off, they say.

The opposition speaks of jobs lost because of the sugar program. Without the program there would be a lot more jobs lost. There are at least 6 jobs in the growing and processing of sugar in the U.S. for every job in refining. There are very few jobs in the blending of sugar with gelatin or cocoa, although the administration could very easily take care of that aspect if it would merely act on the ITC recommendations and halt the increasing imports of products circumventing our quotas.

You may have the impression that I think the U.S. sugar program has been getting a bad rap. You bet I do! It is one of the more successful farm programs that has served the public well and it certainly merits continuation.

The American sugar farmer is an efficient producer, as is the American corn, wheat, cotton, rice or soybean farmer. He can compete with farmers anywhere-- but not with subsidized foreign production. That is why the U.S. sweetener industry is supporting the Administration's goal to get rid of all agricultural subsidies and to achieve truly free world trade. That is why they support getting rid of the U.S. sugar program -- but only when other countries get rid of theirs.

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RESOURCE CONSERVATION IN A CHANGING WORLD

Paul Fuglestad and James A. Maetzold
Soil Conservation Service

On July 13 of this year the Department of Agriculture released a public review draft of the second appraisal of soil, water, and related resources on nonfederal land in the United States. Conducted under the auspices of P.L. 95-192 (The Soil and Water Resources Conservation Act of 1977, or RCA), the report presents a detailed assessment of the health of our agricultural resource base. The review period was concluded on October 20, and we sincerely hope that each of you with an abiding interest in natural resources, conservation, and the environment had the opportunity to read the appraisal and provide your comments and reactions to the SCS. Several hundred written comments have been received to date.

We mention the RCA appraisal because the July draft states that agricultural exports are depressed because, among other reasons, of the strong dollar. Last week the dollar hit a 40-year low. You may question why we would be writing about exports and dollar exchange rates at all in a document reporting on the status and conditions of agricultural resources. The point is, the status and conditions of U.S. resources are depending more and more on what happens in the global community. The links among farm prices, land use and conservation, and markets, productivity, and policies overseas are on their way to becoming direct and instantaneous, requiring the close attention of the entire conservation community: farmers, agencies, and policy makers.

We will return to this theme in a few minutes but first let us touch on what we found out about our resources during the second RCA appraisal. The study began almost as soon as the first appraisal was published in 1981. In it we looked at land resources, water resources, their environment, and the projection of major resource trends. Here is what we saw:

Land:

Land productivity impairment stems from two sources: annual, irreversible conversion from agricultural to non-agricultural uses, and from continued, even accelerated, erosion; much of it needless. We estimate that about a million-and-a-half acres of agricultural land are being converted to non-agricultural uses annually, two-thirds of it cropland. If this conversion rate continues the cropland base will be reduced 12% by the year 2030. There are signs that this rate may be decreasing. During the 80's, the rate of urban land development has been about half that of the 70's. This may be misleading because most urban development that does occur is on prime farmland near metropolitan areas. On the other hand there are 150 million acres of nonfederal pasture, range, and forest land with high or medium potential for conversion to cropland.

The down side of this, however, is that much of it is either wetland or highly erodible land, the conversion of which is undesirable and also discouraged under the Food Security Act of 1985.

Erosion continues to be a serious problem on our nonfederal lands. The SCS' National Resources Inventory (NRI), conducted in 1982, estimated that sheet and rill erosion moved over 3.4 billion tons of soil during that year. Wind erosion moved another 2 billion tons. Stacked on an acre this amount of soil would be 600 miles deep. The NRI estimated that 286 million acres of nonfederal land--including 173 million acres of cropland--were eroding at levels exceeding the soils' tolerance.

What does erosion imply for the nation's agricultural productive capacity? Using computer simulation of weather, plant growth, and erosion processes, USDA scientists in Temple, Texas estimated the effect of continuing 1982's cropping, management, conservation practices, and erosion conditions for the next hundred years. They found some regions of the country to be severely affected. Physical productivity in the Central California Coast Range, for example, would be reduced by as much as 60% over the century; in the Great Valley of Virginia, it would be reduced by 50%. There are vast tracts that would not be nearly so affected, however, so the national average productivity impairment was projected to be quite small, in the neighborhood of 2%. This would about double in the absence of conservation measures. Computer simulation of individual soils over longer periods indicates, however, that the loss would increase rapidly after 100 years.

Salinity/sodicity results in yield impairment, irrigation water degradation, damage to fish and wildlife habitat, and risk to livestock and human health. It was found in the second appraisal that more than 57 million acres of cropland and pastureland are either sodic or affected by varying degrees of salinity. This acreage is much larger than previously thought. Especially hard hit are the Rio Grande, Lower Colorado, and Great Basin regions, where a majority of the cropland/pastureland are acres affected.

There are 770 million acres of rangeland in the conterminous United States, 46% nonfederal. If it could be visualized as a square tract it would have 1100 miles per side. Range scientists generally believe that range conditions reached a low point in the 1930's; slowly improving since. SCS conducted range assessments in 1963, 1977, and 1982. Defining range condition in quartiles, the latter assessment found 34% of nonfederal rangeland falling in the good and excellent quartiles and 61% in the poor and fair quartiles. Generally speaking, the correlation between range condition and the quality of the range ecosystem is high. As a rule, a site in good or excellent condition produces more forage and provides better habitat for native animals. Water infiltration is higher and runoff and erosion are lower.

Water:

Turning to water resources, the second appraisal assessed their status and use in terms of supplemental irrigation, soil moisture management, and wet cropland. In 1982, supplemental irrigation was applied to 49 million acres. Most occurred in the arid and semi-arid regions, that is, in the West. Lately, however eastern irrigation has been increasing in importance; Florida ranks 11th in acres irrigated. Since 1969, the increase in irrigated cropland in the southeast was eclipsed only by that in the Pacific states.

An examination of water supply and use data shows that shortages of varying intensity and duration occur in many areas. Offstream uses deplete the Lower Colorado and Rio Grande so much that some forms of aquatic life have disappeared. An expected tripling of domestic and industrial withdrawals will exacerbate this situation. Projected nonagricultural offstream uses in the Texas-Gulf region cannot be met without continued rapid ground water overdraft or dewatered streams or curtailed agricultural withdrawals.

Moving from water shortage to water surfeit, the appraisal cites NRI statistics showing that 107 million acres cropped in 1982 suffered from poor soil drainage, wetness, seasonally high water tables, or overflow--mostly in the Ohio and Mississippi Valleys. It is estimated that productivity would be enhanced on 27 million of these acres through drainage, an activity which can have adverse environmental effects particularly on wildlife habitat.

Health, Safety, and the Environment:

Flood damages, atmospheric deposition, offsite effects of erosion and runoff, wildlife habitat, and wetland preservation were also examined in the second RCA appraisal. We will briefly report the major findings in this section on health, safety, and the environment.

Apart from deaths and other social consequences, flood damages average more than \$5 billion per year. They are projected to reach \$9 billion by the year 2030. Damages in upstream watersheds account for half of all flood damages, and 80% of upstream damages occur in rural areas.

In the case of atmospheric deposition, studies have demonstrated that plants are injured and crop yields are reduced by the presence of above-normal levels of ozone in the surrounding air. In addition, there is a growing concern that atmospheric pollution and the resulting deposition may be damaging aquatic ecosystems and injuring forests in the United States and Canada. Water bodies and soils in some areas experience increased acidity because of acid rain.

The offsite impacts of erosion and runoff received considerable attention in the second appraisal. Erosion and runoff is the nation's greatest contributor to nonpoint source pollution. Sediment decreases water storage capacity in lakes and reservoirs, clogs streams and drainage channels, causes deterioration of aquatic habitats, damages water distribution systems, and decreases cropland productivity. While difficult to measure, erosion's offsite economic and environmental cost is certainly several times greater than costs onsite. Techniques for cost measurement are only beginning to be developed but Clark, et. al., of the Conservation Foundation estimated that offsite water erosion costs are between 3 and 13 billion dollars annually, with a third coming from cropland. Techniques for estimating offsite costs of wind erosion are even more rudimentary but--judging from the work that was done--these costs are at least as great as offsite costs of water erosion.

The status of wildlife habitat was assessed based on the magnitude of change from its original, pristine condition. Drawing on the NRI, SCS biologists evaluated 1982 habitat structure conditions as a percentage of potential, natural conditions. As would be expected, habitat has changed most in the nation's intensive-farming breadbasket.

The final section on environmental conditions deals with the status of nonfederal wetlands. Wetlands are a valuable resource. A crucial wildlife habitat, wetlands also enhance water supplies and water quality, protect against shoreline erosion, ameliorate climatic extremes, store floodwaters, and trap sediment. Probably over half of the original wetlands in this country have been converted to other uses. There are around 90 million wetland acres remaining, including 76 million acres of nonfederal wetlands. It is technically feasible to convert around half of nonfederal wetlands to cropland should economic circumstance warrant. This activity is, of course, discouraged by the "swampbuster" provisions of the 1985 Food Security Act.

From Current Status to Future Needs:

Standing on the platform just presented, we tried to get a view of future resource needs vis-a-vis future resource conditions. These future needs are the RCA "projections" conducted as part of the RCA statutory requirements. It makes good policy sense to have some idea of future needs; intertemporal relationships are the hallmark of natural resource use. We call them "projections" because we take a look at trends of major resource use parameters and trends of the interactions among them and "project" them on some future year, much as images can be "projected" on the large screen in the front of the room (Figure 1).

We know what resource conditions were in 1982 and we know what resource needs were in 1982. We looked at the major parameters influencing each and projected these parametric trends through to the year 2030. Mainly, the parameters affecting resource needs are demand--domestic, foreign, and government--technological change, and public policy. The parameters affecting resource conditions include productivity loss due to erosion, outside demand for agricultural land and water, and--again--public policy (Figure 2).

Let us touch briefly on the important parameters and their trends as we saw them in the appraisal. First, demand projections included domestic and export demand. Government demand and excess capacity were assumed to be zero. Domestic projections, provided by the Economic Research Service incorporated projections of population and income. Export projections, too, were provided by ERS (Figure 3).

The other important resource need parameter is technological change. The approach taken differed from that in the first appraisal. In December, 1982, some three hundred agriculturists, researchers, agency personnel, and other experts met at an RCA-sponsored symposium here in Washington to discuss research, technology, and the prospects for crop and livestock productivity improvements. From this Delphi process, consensus productivity projections were developed for a variety of scenarios ranging from low to optimistic. The "most probable" scenario was used in the RCA intermediate case projections reported here.

Figure 4 shows the more optimistic nature of the productivity projections when compared with those used in the first appraisal. The new projections resulted in some remarkable yield differences (Figure 5).

Projected resource condition parameters included soil productivity losses resulting from erosion and non-agricultural demands for land and water. Erosion losses, as noted earlier, were estimated by computer simulation. Non-ag demands for land were estimated at 1.5 million acres per year with 64% being cropland.

PROJECTIONS

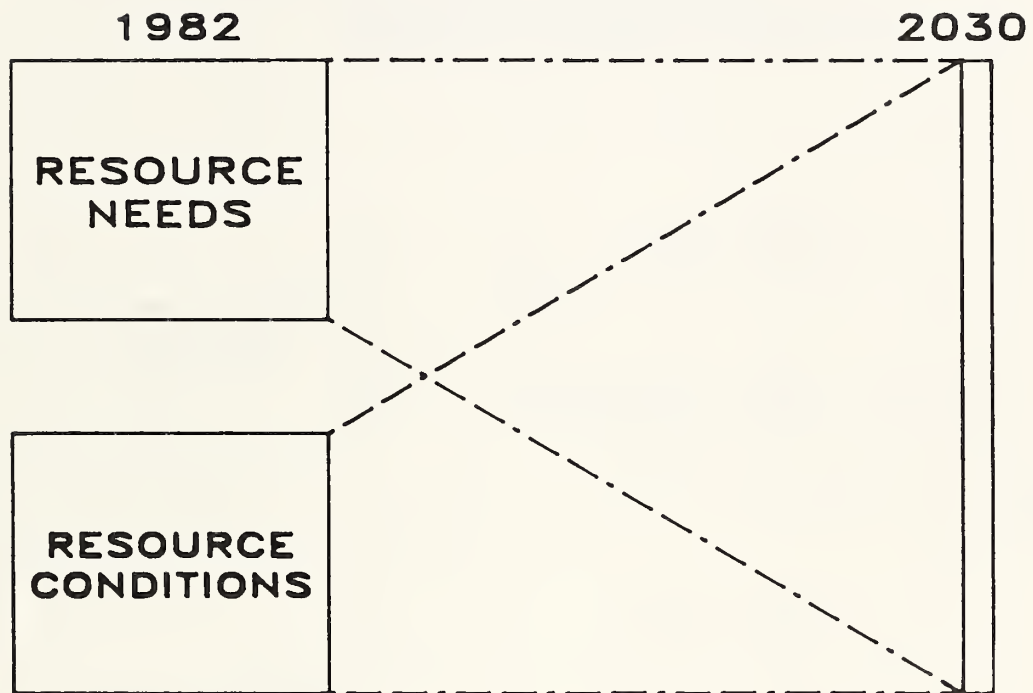


Figure 1

PARAMETERS

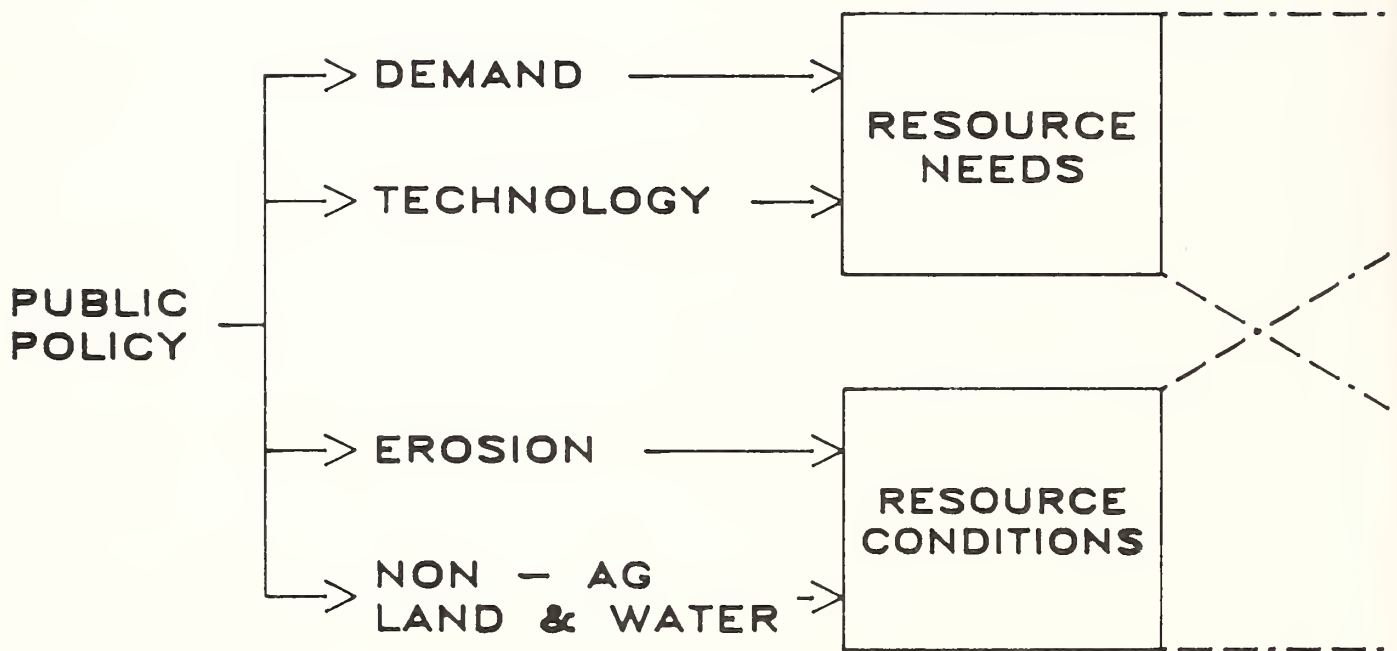


Figure 2

Figure 3. COMMODITY EXPORTS

1970-85 ACTUAL, 1990-2030 PROJECTED

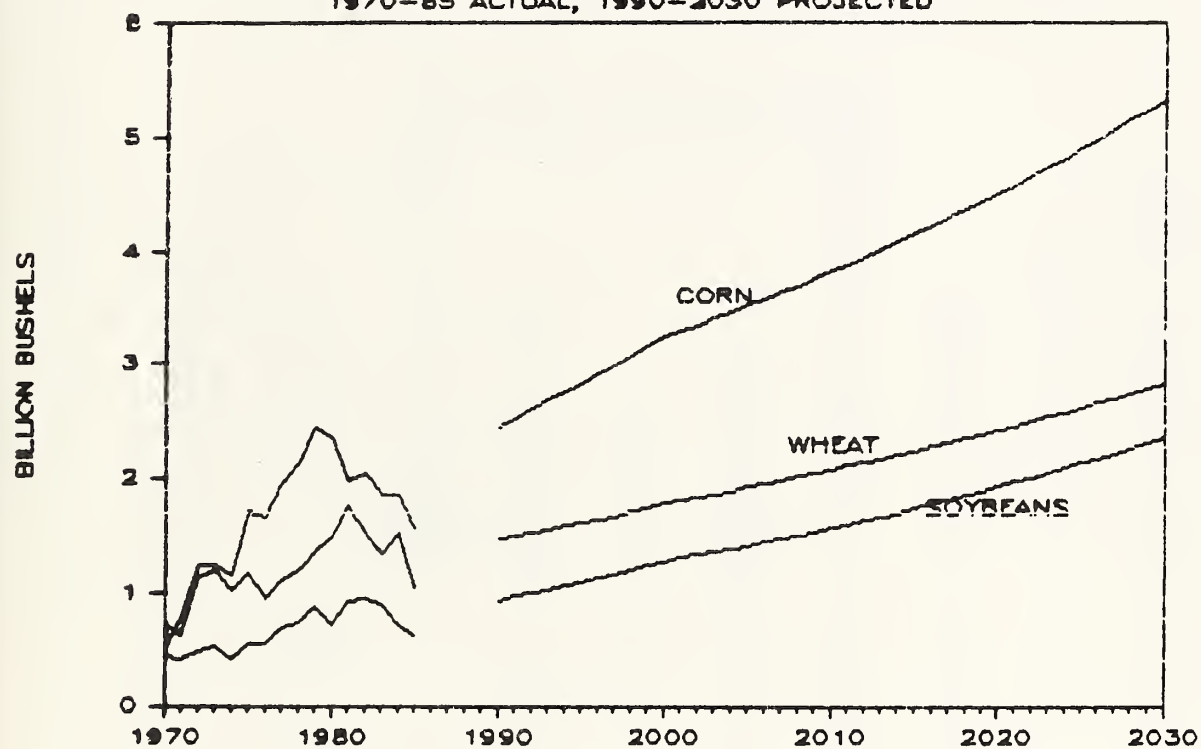


Figure 3

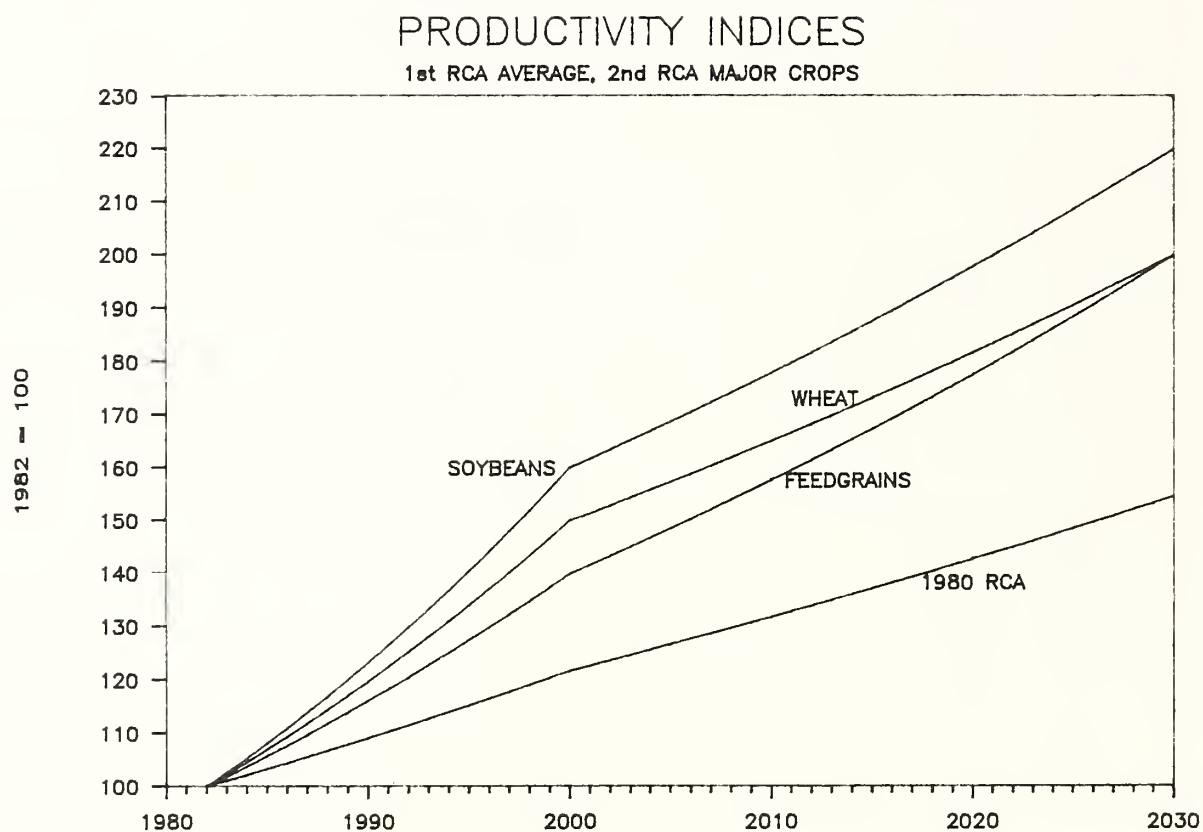


Figure 4

2ND RCA AVERAGE YIELDS AS A PERCENT OF 1ST RCA YIELDS

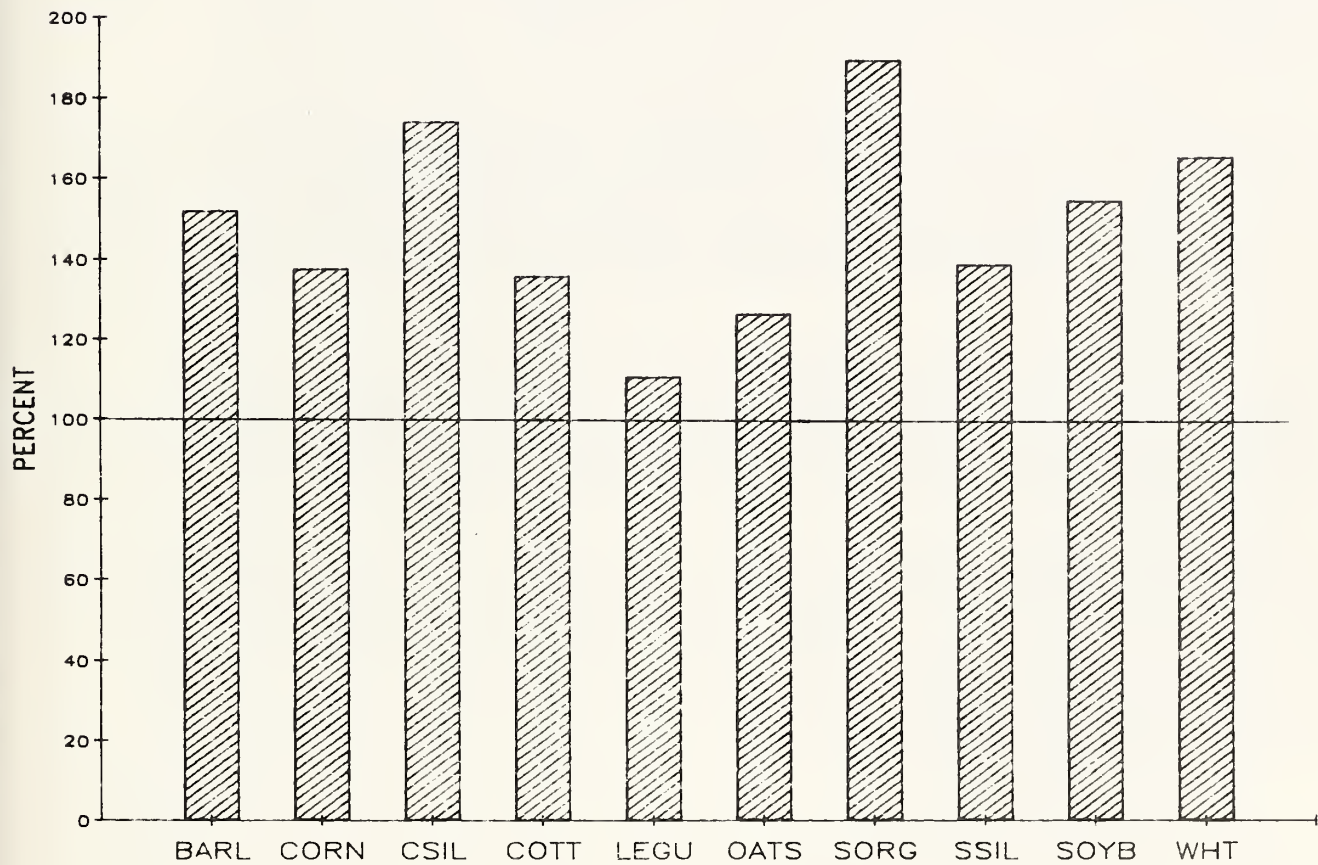


Figure 5

Given these projections, resource needs and conditions were projected through the year 2030. Largely because of the productivity projections, resource impacts were considerably reduced from both 1982 conditions and from the first appraisal projections. We projected in the second appraisal that resource needs could be met on 220 million acres of cropland and 300 million acres of nonfederal range and pasture land.

Because of the reduced resource needs and because of the assumed implementation of the Conservation Title of the 1985 Food Security Act, resource conditions are expected to be improved.

In terms of impending resource scarcity, these projections are quite rosy. Any number of shocks can skew the system within our time horizon. Weather or blight can impact our yields, export demand can hit another Seventies'-like glitch and bring back fencerow-to-fencerow farming, or the price of fossil fuels may become high enough to trigger mass production of ethanol[†] biomass. The external costs of agricultural chemical use may force wholesale changes in farming and food production.

We did not account for these possibilities in the projections but we did run two scenarios of alternative projections by adjusting the major parameters to optimistic and pessimistic levels. In our most pessimistic scenario--very high exports, very low technology--the resource base can still provide for food and fiber requirements, albeit at very high economic and environmental cost.

Concluding Comments:

What we found out about our agricultural resources in the second RCA appraisal and what we think may happen to future resource needs and conditions must be couched in terms of world--not just national--conditions. World financial conditions, exchange rates, indebtedness, productivity, and agricultural policy are becoming major factors in the use and conservation of our natural resources.

World trade in financial instruments is on the order of 36 times greater than trade in goods and services. Interest and exchange rates present major implications for agricultural production and resource use. With the dollar at all time lows export activity is likely to pick up. In today's excess capacity environment it would be foolish to meet these new demands through resource degradation. It need not occur.



Role of RCA Report in Long Term Planning

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The Soil and Water Resource Conservation Act of 1977 (RCA) is, in my judgement, the most significant piece of soil and water legislation since the 1930's. It is important not because it defines a bold new technique or instrument of policy, but because it establishes a process of policy that fundamentally changes the way we as business in this area. Many have discounted RCA, shrugged it off as just more paperwork, getting in the way of progress. They do so at their peril. In fact, the forces put in motion with RCA will fundamentally alter who makes soil and water policy, where it is implemented, and who gains or loses from the result. The impact is long term and far reaching.

The basic contribution of RCA is to mandate development of a performance-oriented soil and water program for the nation. It will never be completely performance based, of course-- various goals and preferences will always influence allocation of conservation effort. But RCA establishes the means for systematic analysis of soil and water needs, regional advantage in food production, the relative importance of various resource goals and implications of alternative policies. The RCA process forces attention to why money should be spent in reducing the movement of soil from productive fields. The fact that we have had these programs and commitment for over fifty years and that people apparently believe in soil conservation is necessary but not sufficient to keep it going.

Elements of the analytical system are summarized very well in the Second Appraisal document. There is no need to review them here. The basic approach is to project the soil and water resources needed to meet future U.S. food demand and respond to world markets, using defensible assumptions about production technology, effective demand for food, and non-farm land needs. Impact of soil erosion on production is estimated, to indicate how erosion affects soil availability for food production. Then a cost-minimizing linear programming model suggests how food and fiber production will be allocated around the country in meeting projected demands within the constraints of available soil and water. The output of this system is not a prediction, but a series of projections of how much soil and water are needed, the areas of the country that will be producing food, and the consequence of soil erosion. Results of these analyses form the basis for policy options presented to the Secretary of Agriculture and to Congress.

Implications of the Second RCA Appraisal

The second Appraisal addresses a series of questions about resource quantity and quality. Information and conclusions are well documented, providing a reliable picture of the condition of the soil and water resources of the nation. There is room for argument, of course. There always is when someone draws conclusions from data. There will be revisions to this draft report. But basically, the Appraisal is a very useful set of observations about the current resource situation in the U.S. Soil and water needs are placed in a global context, acknowledging that choices are made in a complex political-economic environment that transcends national boundaries. Our priorities in soil and water use are a function of the world economy for food and fiber, only partly within our control.

The central conclusions of the Second Appraisal and related projections based on the analytical structure discussed above are important to long term resource planning. There is clear evidence that productive land is being damaged or removed from agriculture altogether. Erosion is occurring at rates far in excess of replacement rates. We will have less good cropland available to the farmers of 2030. But:

1. We will need less cropland in the future. Improvements in technology reduce the relative importance of land in the production process. Soil is simply less important than it used to be. It is not un-important, just less important. Land shifts responding to market conditions suggest that "up to 160 million acres can be taken out of production by the year 2000 without affecting the nation's capacity to meet expected demands for food and fiber" (Robertson, 1987). Because the returns to new technology may taper off by 2000, we may bring about a third of those acres back into crop production. Some feel, however, that the biotech revolution will have an even longer term impact on food and fiber production. There may be reasons to keep more of that 160 million acres in production--but absolute production capacity is unlikely to be one of them. Farms and farmland are important to a local economy. People may insist that farms be protected. But important for planning is the fact that economic pressure will continue to push land and people out of production perhaps before there is a ready alternative for either.
2. Because of the general pressures discussed above, returns to irrigation will likely decline through 2030. Largest reductions in irrigated acreage are projected for the Northern Plains and Delta regions. This projection will come as a surprise to many. It is inconsistent with recent history and general expectations drawn from that. The RCA analysis is simply responding to the fact that irrigation is expensive and economic returns to that investment are questionable. As existing irrigation systems deteriorate or become obsolete, they may not be replaced. Again, these overall projections do not account for intense water competition in local areas and they overlook irrigation for such exogenous crops as citrus in south Florida. It would be hazardous indeed for resource planners to conclude that in view of declining pressure on ground and surface water supplies further attention to managing water is unnecessary. In those areas where irrigation does pay, farmers will find it increasingly difficult to make their case to water managers. The projection suggests redistribution of water from agriculture to various urban uses.
3. Acreage in conservation tillage is projected to continue increasing through 2030, further reducing total acreage of land required to meet future food demand. Importantly, these increases in reduced tillage farming reflect the resulting lower

production cost for many crops and soils rather than any increased returns from reduced erosion. There is some productivity advantage perhaps, but returns to conservation investment to protect long term soil productivity will remain very low. Greater reliance on reduced tillage farming will have obvious impacts on the farm machinery, pesticide and fertilizer industries. Resource planners will have to give more attention to the water quality consequences of reduced tillage and the related increases in pesticide use.

4. The Second Appraisal also implies significant regional shifts in production if market forces are able to accomplish the adjustment. This will cause economic and social stress in some areas, and resource planners may try to protect a county, state or regional share of farming. Such regional shifts are always painful, but the market forces are there to be accommodated or overcome. No locality needs to be a prisoner to market forces--here are various policy instruments available to capture benefits or avoid costs not recorded in price of farmland. But the projections are instructive in suggesting the general pattern of economic pressure. The Appraisal projects that two of every three acres pushed out of production will be in the Northern Plains, Southern Plains and Lake States. The Delta, Corn Belt and Pacific Region will become the agricultural heartland. Those are the immediate implications of the Second RCA Appraisal. The longer run relevance for resource planning and policy is even more significant.

The Long Term

There are several policy implications of all of this. These suggest the real relevance of RCA.

Sustaining the Conservation Effort. There is no compelling evidence of impending food scarcity. We have more food and productive land than we need for the foreseeable future. That doesn't mean that all Americans have enough food, of course, but soil conservation in the U.S. is not the means for dealing with hunger in the U.S. or anywhere else in the world. So why have soil conservation at all? In times of national budgetary stress, the opportunities forgone by helping farmers reduce erosion become particularly apparent. There are good reasons to reduce erosion but they must be clarified and communicated to the voting public. RCA has rather dramatically eroded the political landscape (to use a horrible pun) for traditional soil conservation missions and priorities. The most immediate argument for reducing erosion is that run off clogs streams, ruins fish habitat, increases the cost of water treatment and harbor maintenance and just generally messes things up. The Soil Conservation Service should be applauded for its recent acknowledgement that off-farm erosion damages deserve high priority. The Departments of Agriculture and Environmental Protection need each other in the attack on non-point pollution. Neither can handle it alone, even at the national level. New cooperative arrangements are essential.

Other elements of the rationale for sustaining the soil conservation effort are less tangible. Americans want government to help them protect our last clear source of world comparative advantage, our capacity to produce food. We insist on that protection even when evidence suggests we already are devoting more land and people to production than necessary. We are concerned about the possibility, remote though it may be, that the RCA projections and others like it are way off. We look to government to be cautious with our exhaustible supply of productive land and clean water. The case for sustaining conservation investment in

the inevitable and permanent circumstance of budget scarcity must be clearly and systematically developed.

More Obligation for Reducing Erosion. Another long term lesson from RCA is that systematic attention will be given to the payoff from different soil conserving practices and techniques. Conservation compliance provisions of the 1985 Food Security Act are, in my judgement, direct descendants of the debates in 1978 and 79 over how to implement the good intentions of RCA. The law had been passed with little guidance to USDA on how to achieve a more effective soil conservation effort. Cross compliance was discussed then as an "alternative strategy," then "deep-sixed" when it seemed to suggest that farmers might have to bear some of the cost of conservation. In 1987, that outrageous suggestion is policy. This is a significant redistribution of the rights and obligations inherent in land use. State programs in Illinois and Iowa take a more active approach toward discouraging actions that cause erosion. The policy environment of post-RCA includes a strong element of farmer responsibility to the land and to those affected by run-off.

Planning the Use of Released Land. Land will continue to be shifted out of production, pulled out by non-farm demands and pushed out by low returns to farming. It is important that those areas with the greatest value to farming not be pulled out prematurely and that development be directed toward areas less important to farming. This is not a new policy goal. Farmland protection efforts are underway in nearly all states and in many local governments. The long term need is for a local and state commitment to land use planning and growth management that acknowledges differences in farmland productivity. There is room for development. RCA suggests that there will be even more land released from farming, available for other uses, but effective use requires deliberate planning.

Declining Agricultural Economy in Some Areas. An inevitable result of continuing realization of regional comparative advantage in food production is that agriculture will fail in some areas. People will be hurt by the transition. Farm economic stress of the mid 80s has been felt in the Nation's best and poorest farming areas. Causes of the latest crunch are diffuse, related to global economic forces and investment behavior of individual farmers. There is realignment in farming, in all regions. But those areas with less productive resources and few other advantages for competitive agriculture will continue to feel the pain after the realignments have occurred. Special effort is needed to assist people in finding alternatives, within or outside of farming. Perhaps these adjustments will occur without planning or policy intervention, but policymakers should be able to help people define alternatives and to ease the discomfort of transition. The panhandle counties of north Florida are a case in point, neither unique nor more difficult than such counties in other states. A newly created Center for Alternative Crops and Products at the University of Florida is designed to focus the research and extension resources of the Land Grant university on the choices to be made by residents of this region. The region can no longer compete with other areas in production of corn and soybeans, but there may be other farm or non-farm enterprises that suit the people and land of this area. Perhaps what is needed is reduction of scale, lower input levels and smaller output for existing enterprises. There are no quick answers, but the Land Grant university has the obligation to help people make the choices they will inevitably face as the land changes projected by RCA take place.

Changes in Conservation Agencies. RCA has permanently changed the signals within the soil conservation power cluster. Within the Soil Conservation Service, for example, there is need for highly trained analysts who understand complex physical and economic models. Most of the individuals hired to meet this need will lack the field experience or mission orientation usually associated with SCS. Some of the transition has already occurred, but more is coming. RCA implies a national analytic capability, shifting the balance of power a bit toward Washington. At the field level, district conservationists will need more background in water quality issues. They will inevitably lose some of the "good guy" image as more is required of farmers and other land users whose actions cause erosion. Soil Conservation Districts will either broaden their membership, problem focus and support base, or become irrelevant. New agency and political coalitions will emerge, with particular attention to environmental groups and issues. The Soil Conservation Service will, in my judgement, be asked to play a far more expansive role in natural resource policy design and analysis than it ever has in the past. Problems of groundwater quality, water scarcity, range improvement and management, pest control, and even rural development will be on the table for SCS. It has the people, data and analytical structure necessary for sound policy in these areas.

To conclude, RCA is important not just for what it is, but for what it puts in motion. It is a major feature of the policy landscape that defines a new watershed for soil and water conservation efforts.

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ANNUAL AGRICULTURAL OUTLOOK CONFERENCE

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Outlook '88, Session #20

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DOUBLE-STACK CONTAINER TRAINS: THE POTENTIAL FOR EXPORTS AND DOMESTIC PERISHABLES

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Administrator, Office of Transportation, USDA

Good Afternoon. I would like to welcome you all to the 1988 Outlook Session on Transportation. Each year we endeavor to present information about developments in transportation that will affect the marketing of agricultural products. In concert with this year's outlook theme, "Meeting the Challenges of International Trade", I would also like to welcome our distinguished panelists from the Maritime and Rail Industries, Mr. John Urban with American President Lines and Mr. James Ronayne of the Chicago North Western Railroad. These gentlemen have agreed to enlighten us on a very new concept in transportation -- double-stacked container trains -- and give us some perspective on how this new technology will affect agriculture's ability to compete internationally in years to come. Also important is how this service will affect the domestic marketing of agricultural products.

Before we begin our formal presentation today, I would like to mention a number of international and domestic programs the Office of Transportation is undertaking over the next few years.

OT's program called "Access Rural America" addresses the unsolved access problems of rural America that affect the nation's economic development potential and competitiveness in the world market. Improving access to rural America includes directed research to improve our understanding of problems and issues and raising awareness that many transportation problems identified as rural are solvable. OT activities include defining governmental responsibilities so that transportation system improvements can be made in a timely and efficient manner. OT has focused heavily on the problems of rural roads and bridges, but also has addressed the loss of local rural rail and bus service.

Other domestic transport issues OT intends to focus on over the next year will be the establishment of a commercial drivers license and the problems of transporting hazardous agricultural chemicals. Rail industry regulations involving contracts, market dominance, mergers, and captive shippers will certainly be debated over the next year. We are also actively involved in decisions made affecting agricultural shippers on the nation's waterways as an official observer on the User's board established in the New Water Resources Development Act.

Internationally, OT will be watching as effects of the Shipping Act of 1984 become more pronounced. Always a politically sensitive issue, cargo preference will probably again be debated with various proposals being analyzed by this office in terms of the affects on agricultural exports. We also have embarked on a number of cooperative efforts with various private sector associations and firms to minimize the costs of exporting agricultural commodities. These include analyses of foreign market ports for handling both bulk and high-valued commodities and better packaging and loading methods so our commodities arrive at our overseas customers in the best shape possible. Other efforts such as the agreement on the transport of perishables and the Caribbean Basin Initiative will undoubtedly be areas in which OT is active over the next year. We will continue, too, our role as border coordinator for exports to Mexico.

Today, However, I would like to talk about the advent of a relatively new concept in transportation -- double-stacked container trains.

Introduction

The volume and value of U.S. imports from the Far East grew rapidly during the 1970's, and their high unit value made them unusually well-suited to capitalize on the advantages of containerization. As the use of containerization grew, maritime liner companies developed several options to deliver containers to U.S. receivers inland. Motor carriers and the use of dedicated container trains for more distant markets were options, but more often it was less costly to keep the container on the West Coast and simply transload the containerized product into another carrier's equipment. The container was then immediately available to be shipped back, sometimes empty, for more Asian cargo.

To make fuller use of the protective container and eliminate costly transloading, maritime companies invested in the development and production of a "welled" railcar that could accommodate one container stacked on another. More containers could be placed on each car; more containers were carried on each train. The economics were evident and the practice mushroomed. The volume of double-stacked container movements, which only amounted to 30,000 moves in 1984, has expanded to over 400,000 moves annually.

Today over 50 dedicated, double-stacked container trains leave West Coast cities weekly, bound for hub centers like Chicago, New York, Memphis, Atlanta, New Orleans, Houston, Columbus, and Cincinnati. Often, because eastbound volumes are greater than westbound volumes, the containers return empty. On the other hand, cotton, tobacco, hay, food-grade soybeans, seeds, special wheats, and other commodities are often trucked or railed to the West Coast to be loaded in containers for export.

The information presented here is not intended to infer that the double-stack mode is necessarily more advantageous than other modes for all agricultural movements. It is a new technology with a potential for servicing shippers better, especially to the Pacific Rim at this time.

Double-Stack Train Operations

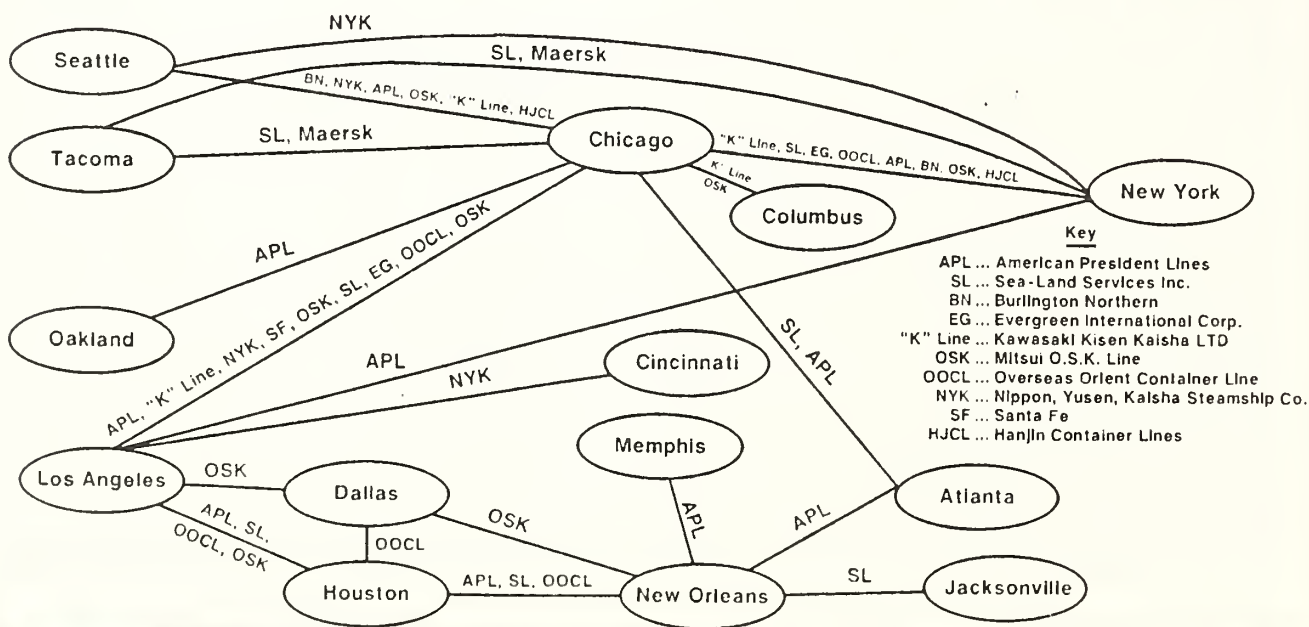
Marine companies inaugurated the service to coincide with the arrival and departure of their ships on the West Coast. Using their own rail cars, they contracted with the railroads to operate the trains, specifying the service required. The marine company which initiates the service is responsible for booking the traffic for the train.

Aside from the economics of stacking the containers, a major advantage of double-stacked trains is their speed. Transit time from Los Angeles to Chicago is reported to be 60 hours, while Chicago to New York is about 28 hours. A Tacoma to New York run is reported to average about 90 hours. Specially designed yards and container transfer systems at major hub centers like Chicago were created to expedite train movement.

Of the 54 trains that leave the West Coast weekly, 30 originate and return to the Los Angeles area. About half of the those trains serve Chicago, with 7 proceeding to the New York City area. Other cities served by trains taking northern routes include Columbus and Cincinnati. Southern cities served by 9 Los Angeles trains, include Atlanta, Houston, Dallas, Memphis, New Orleans, and Jacksonville.

From the Seattle/Tacoma area 21 trains leave weekly, primarily serving Chicago and New York. A train from Oakland also serves Chicago and two trains run weekly between Atlanta and Chicago. In the succeeding figure 1, double-stack routes and hub centers are graphically presented.

Fig. 1 Double-Stack Rail Car Services (July 1987)



Westbound Agricultural Exports

Pacific Rim import markets for agricultural products have grown at a compound annual rate of between 4-5 percent during 1977 to 1984. Value-added products gained more than 2 percent over bulk products.

The following table gives major imports by Pacific Rim countries with most of the product types being supplied by the United States in some quantity. In 1984 the United States supplied about 16 percent of all Pacific Rim agricultural imports, up from 14 percent in 1970.

Pacific Rim Imports of Agricultural Products, 1984

<u>Product Group</u>	<u>\$ Amount in Billions</u>	<u>Growth Rate</u>
Grain and feed products	10.9	6.3%
Oilseeds and oilseed products	4.7	5.4%
Dairy, livestock and poultry products	7.3	6.0%
Horticultural and tropical products	9.9	4.2%
Cotton and tobacco products	4.5	2.7%
Forest products	6.5	1.4%
Total	43.8	4.5%

(Source: "Emerging Agricultural Marketing Opportunities in the Pacific Rim," Foreign Agricultural Service, USDA, January 1986.)

The next table presents a listing of the products and their tonnages which were exported from the U.S. West Coast to the Pacific Rim in 1984. A large proportion of the agricultural tonnage was shipped in containers. A comparison of the two tables gives some perspective on the degree of compatibility between product demand and West Coast exports.

West Coast Exports by Liner Service to the Pacific Rim, 1984

<u>Commodity</u>	<u>Total Tons</u>	<u>Total Value (in Millions \$)</u>
Pulp and wastepaper	1,820,691	405.5
Textile fibers and waste	992,698	1,528.2
Fruit and vegetables	743,551	545.1
Wood, lumber, and cork	720,559	192.8
Paper and paperboard	875,576	371.3
Feed-stuffs for animals	577,273	114.1
Metalliferous ore and scraps	446,893	340.5
Synthetic resins and plastic	417,363	616.8
Hides, skins, and furskins	387,969	669.4
Meat and meat preparations	219,250	621.8
All other commodities	2,171,885	7,011.9

(Source: Seatrade, January/February 1987)

Historical Overview

Containerization: To appreciate the impact of the double-stack technology, it is necessary to keep in mind the conditions that paved the way for their introduction. During the 1960's, the concept was pioneered of placing loaded containers in a specially-designed cellular ship for overseas transport. This concept, called containerization, reduced cargo handling, product damage and pilferage. As containerization advanced over break-bulk shipping in the intercoastal service, it also emerged as a preferred method of shipment in international trade.

Regulation: In the early 1980's, the United States was loosening its regulation on most transport modes, including the ocean liner industry. At the same time, trade with Pacific Rim countries was increasing at an accelerated rate. Conventional container-on-flatcar (COFC) service was unable to provide the required service to the U.S. interior and return the containers to the West Coast expeditiously. This problem induced Far Eastern carriers to introduce double-stack service. The Staggers Rail Act of 1980 and the Shipping Act of 1984 were the two principle actions which encouraged this innovation. The Staggers Rail Act eliminated a great deal of rate and service regulation and enabled the railroads to tailor their services and charges according to the competitive environment. The Shipping Act granted ocean carriers more independence in establishing rates, including intermodal rates.

Service Inaugurated: Because of the economics and the need for the service, and the ability of the railroads and ocean liners to cooperatively provide it, some of the ocean carriers serving the Pacific Rim decided to apply the dedicated, unit train concept of moving containers from the West Coast eastward. The service developed was available only to very large "hub centers" or metropolitan areas along major U.S. corridors. The unit trains operated only on prescribed routes, left full or empty on strict time schedules, stopped only for fuel or to change crews, and bypassed congested railyards along the route when possible.

There was one difference from the COFC trains that had been run before, each flatcar was now designed to accomodate containers stacked two high. This factor nearly doubled the efficiency of the trains.

To develop the capacity to handle the double-stack containers, marine companies worked with the railroads and railcar manufacturers to produce a suitable flatcar. The problem with stacking containers two high is that tunnels and bridges, through and under which the train must pass, are too low. "Drop-frame" or "deep-well" flatcars, similar to designs used in hauling heavy equipment, were purchased by the marine companies. One version, the articulated car, is designed with five platforms each capable of holding two 40-foot containers. A typical train consisted of 20 cars for a total capacity of 200 containers. Figure 2 compares double-stack car designs with conventional COFC and trailer-on-flatcars (TOFC).

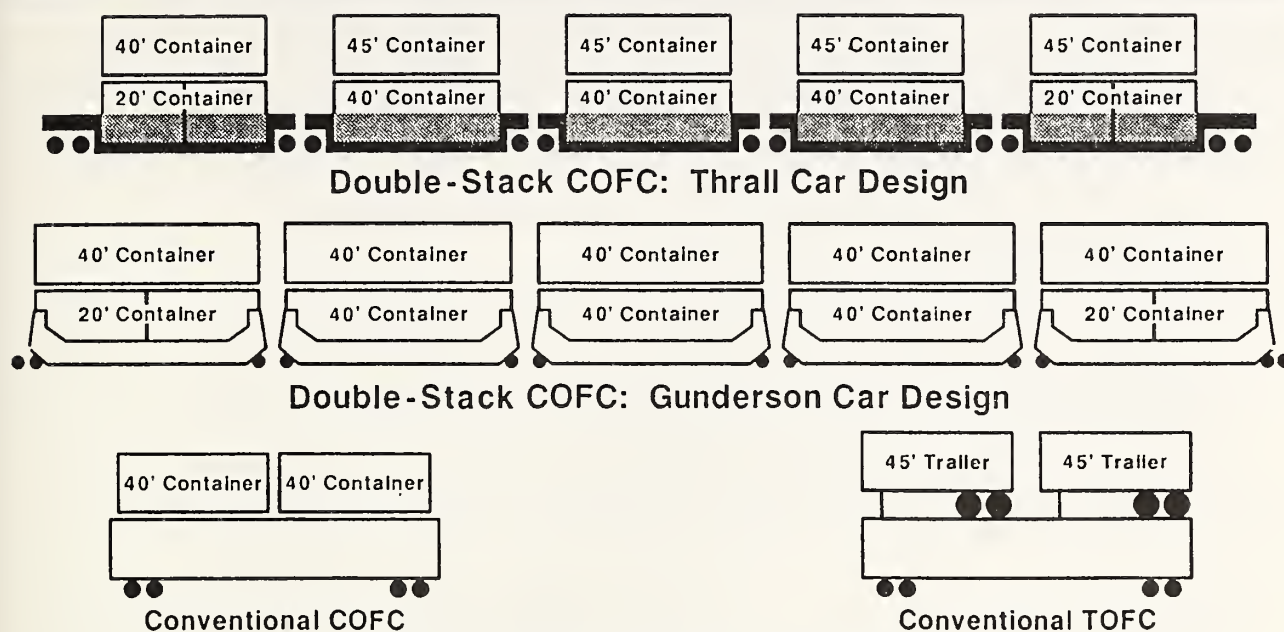


Fig. 2 Intermodal Rail Car Design

Source: Department of Transportation Staff Study, Effects of Ocean Carrier Double-Stack Container Train Services on Domestic Rail Freight Services
SS-42-U-41 June 1986

Two modifications of the dedicated train service that increase COFC applications in less than ideal conditions are the use of "free-running" double-stack cars and "spine cars". Free-running cars are the same five-platform, deep-welled cars mentioned above but are split from or added to the intermodal trains. The cars allow service to low volume container routes that cannot support a whole train of double-stack cars. Spine cars are single level, five-platform, articulated cars designed to carry containers over routes having height restrictions. Spine cars may also be used when container traffic densities do not require the double-stacking of containers.

Marine companies were the first to inaugurate double-stack train service in the United States, providing both the cars and the traffic. Rail companies provided the right-of-way, locomotives, and crew. The railroads were paid on a varying basis and one of the most common was a flat rate per mile to operate the train on a fixed service schedule. Today, railroads provide double-stack service (15 percent of total trains) in addition to operating all trains.

Double-Stack Advantages

The economic advantages of double-stacked trains over conventional COFC carriage are listed below. Generally advantages come from an increase in unit train loadings and a decrease in the per container flatcar weight. A train is usually limited by its length, or the number of cars that can be pulled. If each

flatcar is essentially capable of carrying twice as many containers, the double-stacked train could be twice as efficient. The additional capacity doesn't directly translate into those savings but comes close in many cost components. Also, if two containers fit on a flatcar where one used to, less flatcars are needed for the same number of containers. The weight savings per container has been estimated at about 40 percent. Other saving factors are:

- o Line-Haul Costs - Overall line-haul costs are reduced because of the increased density of containers per train.
- o Crew Wages - As the same crew is needed to haul about twice as many containers, labor charges are reduced on a per container basis.
- o Aerodynamics - Double-stack flatcars are more aerodynamic than the conventional flatcars.
- o Fuel - Less fuel is used on a per container basis because flatcar weight per container has been reduced and train aerodynamics improved.
- o Locomotive Repair - Savings in locomotive repair are the result of decreased car weight and improved aerodynamics. These costs are primarily a function of fuel consumption per hour of operation per container.
- o Locomotive Ownership - Car weight reduction and improved aerodynamics of the double-stack flatcar decreases the locomotive ownership requirements per container carried.
- o Maintenance of Way - Savings to trackage and roadbed is a function of weight reduction per container moved.
- o Switching - Because the trains are largely dedicated, unit train switching and other terminal handling is reduced.
- o Car Ownership - Flatcar ownership costs are less because fewer cars are needed on a per container basis. Development and production of the new cars is expensive, but a net savings is reported overall.
- o Train Service - Service costs are a factor of train miles. Cost per container is lower due to the increased number of containers per train.
- o Loss and Damages - Savings result from decreased train "slack action," lower vibration, decreased thefts, and a prohibition on "humping."
- o Inventory Costs - A direct savings to the shipper from expedited service are lower inventory costs and improved service.

Double-Stack Disadvantages

Double-stack trains also have inherent disadvantages:

- o Eastbound Availability - Trains are generally fully loaded eastbound because the service was initially inaugurated to accomodate ocean liner traffic arriving on the West Coast for eastbound delivery points. Lack of space for eastbound containers generated on the West Coast has been a problem.
- o Westbound Load Factor - The lack of consistent loads westbound decreases the revenue/cost ratio.
- o Terminal Costs - Because older terminals are not designed to accommodate the double-stack train configurations and the surge of inbound containers, congestion may result and increase terminal costs. This factor necessitates greater terminal discipline and sometimes modifications to terminal facilities.
- o Clearance - All rail routes are not available to double-stack trains because of clearance problems.
- o Service Availability - Hub centers inland are limited, constraining shipper use.
- o Weight Limits - Double-stack flat cars with 100,000 pound capacity load limits restrict payloads and affect operating revenue.
- o Refrigeration - Temperature-controlled equipment is presently too heavy to accomodate sufficient payloads of perishable products.

Moving Agricultural Perishables

A major change in the transport of agricultural perishables occurred with the ICC's deregulation of the movement of fresh fruits and vegetables in 1979. The following year saw the elimination of more rail and truck regulations. Within months of the ICC's decision, perishable tonnage movements by rail increased by 22 percent and carloads by 13 percent. Today, of all the fresh fruits and vegetables coming into the Northeast from the West Coast, about 35 percent move by rail. Half of that railroad traffic arrives in piggyback trailers.

Double-stack operators have expressed an interest in developing containerized movements of West Coast perishable traffic to the Northeast and Southeast. However, unique problems exist in shipping perishable agricultural products on double-stack trains. They are:

- o Weight Limit - The tare weight (9,900 pounds) of a refrigerated container is close to twice that of a dry cargo container (5,900 pounds) because of the attached refrigeration unit and needed insulation. The additional weight causes the payload to be lowered to a point that other modes of transport are cheaper per unit of product shipped.

In addition to the container weight, the need for a motor generator to power the container's refrigeration unit adds weight to the railcar itself. Carriers are currently testing a "slave" motor-generator set which can power the refrigeration units for two cars instead of one.

- o Service Availability - If the movement of agricultural perishables by double-stack trains is to prove feasible, more domestically-originated trains must be added. Trains leaving the West Coast today are largely formed to service imported container traffic, leaving little space for domestic perishable traffic. In any case, if perishable products are to move on this mode, shippers will have to conform to the fixed schedule, fixed route, and limited destination characteristics of the service.

Summary

The expansion of double-stacked container service has been dramatic. Its success is the result of the necessity to deliver imported, containerized products inland efficiently. Agricultural shippers are substantial users of containerized liner services in delivering products to the Far East. The ability to use the new double-stack services is contingent on the agricultural exporter becoming aware of the specifics of the service being offered and how to employ that service. We hope the information presented here is of some use to that end. If this effort proves successful in its intent, updated information will be made available subsequently.

(Adapted from "Double-Stack Container Trains: Potential for Agricultural Exports," by Constantine J. Nicholas, Transportation Facts, August 1987, Office of Transportation, USDA.)

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DOUBLE-STACK SERVICE: A BREAKTHROUGH IN TRANSPORTATION TECHNOLOGY

John Urban

Director, Special Commodities, American President Lines

On behalf of American President Lines, I'd like to thank you for inviting me to participate in this excellent forum. The fact that this transportation panel is devoted to double-stacked container trains, just three and a half years after the first solid configuration stack trains were introduced into service, is an indication of how quickly this mode has changed the transportation business.

I'd like to begin with a review of the basis for the fast growth in double-stack rail transportation, highlighting some of the key advantages of the mode available to all customers, including shippers of agricultural products. Then I will focus on some key benefits which are being made available to perishable shippers.

American President Companies -- the parent company which includes APL and our domestic transportation affiliates -- now has an annual stack train capacity of more than 300,000 containers, and offers multiple weekly departures from 14 U.S. cities. As I noted, this system began anew just three and a half years ago. During this period of rapid expansion, we have consistently carried full- or near-capacity loads.

Part of the explanation for this success lies in the simple, powerful economies of double-stack container transport. As the name implies, containers are carried two-high; in the case of APC's lightweight rail cars, it is possible to carry twice as many containers as on a conventional solid train, with virtually no increase in crew or power. Thus there are substantial economic benefits to railroads, intermediary agents and ultimately to the customer.

Another key reason for the popularity of stack trains is the smooth cargo ride these trains provide. The articulated, well-type design of each rail car minimizes vibrations or shocks during transit. Our in-house tests, and one conducted in cooperation with a major retailer, indicate the forces encountered during a typical APC stack train transit are significantly lower than those experienced during a piggyback or truck movement of similar duration. This is particularly significant for shippers of sensitive commodities, such as table grapes.

Along with these and other specific benefits that double-stack technology offers are a number of key advantages that result from the creation of multi-modal, high volume container transport systems, of which stack trains are one element.

By exploiting the full flexibility of the ocean container, an intermodal carrier can begin to offer value-added services for customers. "Value-added service" is more than a buzz-word. It refers to enhancing both the value of the transportation service that the carrier provides, and the value of the commodity itself, while contributing to the customer's profit margins.

In the case of American President Lines, our role as part of a highly integrated domestic and international distribution system has made it possible to increase the number of points served and the frequency of scheduled departures we offer; approve transit times; introduce new information services; and make available a large, diverse pool of equipment for both dry and refrigerated cargoes.

A large network of intermodal service points is important to growers far from major cities. With the APC system, customers are not limited to the facilities offered by any single railroad or intermodal operator; there are literally hundreds of pick-up and drop-off points available, providing greater flexibility and convenience. Similarly, exporters benefit from the broad market coverage a major intermodal carrier can provide overseas.

When operated in solid unit configurations, stack trains can provide highly competitive transit times compared to other modes of land transport; for example, 92 hours between Los Angeles and New York. This is because the trains avoid congested terminals, and stop only to change crew or locomotives. When combined with fast ocean transits, this can result in an intermodal service which is several days faster than a comparable all water transit from, say, the East Coast to Japan.

The fast transits and frequent departures, combined with the superior ride quality I mentioned earlier, are good examples of value-added benefits for a shipper of high-value or time-sensitive commodities.

In the area of information services, an agricultural shipper who uses a full-service intermodal carrier can track his cargo throughout its transit. This helps him better control the overall economics of his transportation and distribution operations. For example, APL now has more than 200 international customers that can access timely information about their shipments directly from our database, through their own PC's. And we are introducing a service which enables any exporter or importer to receive on-line information about their shipments through any Touch-Tone phone. Again, this information is drawn directly from our mainframe database.

Finally, an integrated computer system can provide the stack train customer with automated documentation. He receives a single, computer-generated bill of lading from origin point to destination. And, through computer links between the carrier and U.S. Customs or the Department of Agriculture, import shipments can be pre-inspected and cleared prior to vessel arrival.

The availability of a number of different container sizes ensures that a customer can match equipment dimensions with his particular type of shipments. High density freight such as canned foods may be more economically transported in 20-foot containers than a larger container or trailer size. The industry-exclusive 45- and 48-foot containers offered by APC are ideal for high-value, low density shipments.

These are some of the general benefits available to all customers from a highly developed stack train system, in conjunction with other modes of transport. I would now like to focus more specifically on how stack trains can meet the needs of international and domestic shippers of farm products.

In the area of bulk commodities, APC has carried a number of Midwestern products bound for Asia -- including cotton, bulgur, seeds and wheat. Some of these products are transported all the way to the Middle East, in one coordinated movement. Clearly, where containerization of these products is a viable option, the economies of stack train service can be applied for long-haul land transport.

Shippers of premium wines and other high-value food products are attracted to the APC stack train system by the availability of an insulated 45-foot container for use on the stack trains, as well as the superior ride quality and fast, reliable transits.

Now I would like to move into my area of expertise, the transport of perishable commodities. As a leading Pacific Basin carrier, APC has established a special commodities division and made a substantial capital commitment to develop new generations of refrigerated equipment, to meet the growing demand in Asia for fresh and frozen agricultural exports from North America.

The newest refrigerated containers feature microprocessor controllers, efficient bottom-air delivery, and data recording throughout transit. They can sustain a temperature level within a two-degree Fahrenheit range. At APL, we have found that such technology, in combination with expert planning and handling, can open up new overseas markets for highly sensitive commodities. Products which previously moved via air freight exclusively can now be shipped in large quantities via ocean container services.

APL has utilized a variety of transportation modes in combination with its ocean containership services, to provide a through transit from inland points for perishables. On the stack trains, the company has loaded refrigerated containers aboard special stack cars with built-in generators. Also, the company offers truck and refrigerated boxcar services for frozen poultry, pork, beef and other perishables.

While these options can meet a wide range of shipper demands, we are currently embarking on a new program to further enhance our ability to extend the benefits of stack train service to international and domestic perishables shippers, through the use of "self-contained" refrigerated containers.

A self-contained unit, as the name implies, is equipped with its own generator. To the carrier, such a design helps simplify the logistical considerations associated with refrigerated cargo transport. These containers can be loaded in any position on a stack train, and can be readily transferred to a truck, or conventional trains as required.

The APC self-contained refrigerated containers will feature the same precise temperature control I noted above. We see a number of potential benefits to customers resulting from the introduction of this technology:

-- First, the combination of service flexibility and advanced technology will make it easier to extend our through services to points remote from major cities. In other words, the numerous benefits of an intermodal system utilizing stack trains can be increasingly applied directly from the point of production.

-- Second, we believe a service based on self-contained equipment can expand the marketability of many perishable products. In international service, for example, I believe that Midwestern shippers of chilled beef and pork could benefit from the precise temperature control of the containers, fast transits and frequent departures to Asia. On the domestic front, western region shippers of fresh produce and frozen foods may find that stack train service with self-contained units is a highly attractive transportation option along routes traditionally serviced by over-the-road or piggyback carriers -- from the West Coast to the South Atlantic region or to Texas, for example.

-- Third, the improved logistics of these containers, combined with the frequent departures available on stack trains, greatly enhance a carrier's ability to respond to changes in market conditions or seasonal demands. Such a versatile container can be more readily made available where and when the customer needs it.

Throughout my remarks, I have noted how the various stack train and refrigerated container features can together provide a premium transportation service. In conclusion, I would stress that only a highly integrated stack train system can offer domestic and international shippers of agricultural products the combination of fast transits, reliable schedules, frequent departures, computer support services, and the latest generation of refrigerated container technology.

While some benefits of stack train transport will become more readily apparent as current systems are expanded and new refrigerated containers are phased into service, most of the service features I have highlighted are already available to agricultural shippers. Today, an East Coast shipper, for example, can depend on a regularly scheduled 19-day service from New York to Yokohama, with careful monitoring of his cargo throughout the combined rail and ocean transit. I believe that is a good example of the "value-added" potential of intermodal transportation, using stack trains.

Thank you very much.

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RURAL ECONOMIC CONDITIONS AND RURAL DEVELOPMENT POLICY FOR THE 1980'S AND 1990'S

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Background

The 1970's was a period of unprecedented employment and population growth for nonmetro America. The nonmetro poverty rate for individuals fell to 15.2 percent in 1979, while the ratio of nonmetro to metro median family income reached .85. Because the pattern of strong nonmetro growth in the 1970's was so widespread, and matched so well the residential preferences of our citizens, it appeared that these new patterns would continue into the 1980's. Writing about rural policy in the early 1980's, I said "the strength of the underlying forces shaping rural development, including economic decentralization, modernization of rural life, and preference for rural living make it unlikely that the 1970's were an aberration."

Unfortunately, as evidence of nonmetro economic hardship and structural dislocation continue to accumulate, it has become clear that for much of nonmetro America the 1970's were an aberration. Relatively greater dependence on goods production--the kinds of manufacturing industries in rural areas and the occupational structure within these industries--and sharp declines in natural resource-based industries and agriculture, have been the principal causes of economic adjustment and stress in rural America in the 1980's. Indicators of rural economic adjustment include:

- o Nonmetro employment grew one-third as fast as metro employment between 1979 and 86 (4 vs. 13 percent), a reversal of the 1970's when nonmetro employment grew more rapidly. National attention has focused mainly on financial problems in the farm sector. Overall employment in farming dependent counties has been stagnant, and thousands of farm households were forced out of farming for financial reasons. At the same time, employment in rural mining and energy dependent counties has declined by 9.5 percent, and rural manufacturing dependent counties, which are home to 40 percent of the rural population, showed employment growth of only 2.7 percent.

- o For 1986, the nonmetro unemployment rate averaged above 9 percent, nearly 3 percentage points higher than the metro rate. The nonmetro unemployment rate has fallen more slowly than the metro rate during the current economic expansion, leaving over 1,000 nonmetro counties with annual average unemployment rates of 9 percent or more. Higher nonmetro than metro unemployment rates are a reversal of the historical pattern observed in the 1960's and 70's.
- o The nonmetro poverty rate was 18.3 percent in 1985 compared with 12.7 percent for metro areas. While the metro rate has fallen during the recovery from the recession of the early 1980's, the nonmetro rate has been virtually unchanged. Counties with high poverty rates are disproportionately located in the rural South.
- o Net outmigration from rural to urban places has gained momentum. During 1980-84, net outmovement from rural areas totaled only 30,000. But in 1985-86 the outmovement was over 600,000, and preliminary estimates for 1986-87 are over 900,000. These annual net outmigration numbers are much larger than the annual average of either the 1950's or 1960's. Despite a recovery in the national economy from the serious recession of the early 1980's, more than 1,300 nonmetro counties lost population from 1983-86.

Rural Economic Diversity and Specialization

At the beginning of World War II most of our rural citizens lived and worked on farms. But an agricultural revolution, fueled by changing technology and facilitated by public policy, created a surplus of farmers, leading to a massive exodus from the sector. Between 1945 and 1970, an average of 120,000 farms disappeared annually, leading to an average yearly farm population decline of 600,000. In the end, we were left with less than one-third as many farmers as we began with.

In spite of significant declines in agriculture and extractive industry employment, 25 percent of our citizens remain in rural areas. In the 1960's and 70's a growing manufacturing sector provided new employment for rural workers, particularly for a generation of rural women whose labor force participation grew rapidly. During the same period rural areas also participated in the growth of the private service economy, which between 1969 and 1979 produced 55 percent of all the new jobs in rural America. Rural people now make their living from a wide-ranging set of activities not unlike those of urban Americans. Manufacturing, trade, and services are the dominant industries in rural areas. This transformation of the rural economic base from a primary dependence on natural resource activities, including agriculture, to a dependence on manufacturing, trade, and services has increased the diversity among rural areas.

Another aspect of rural diversity is that, in spite of widespread decline in rural manufacturing, agriculture, and natural resource based economies, other rural areas have done relatively well. Job growth in the rest of rural America has exceeded 9 percent. Rural recreation-retirement counties have grown in

population at more than four times the rate of other nonmetro counties, capturing most post-1980 rural population growth. This diversity of experience makes it much more difficult to design a national rural development policy, and strongly implies that targeting of assistance is important.

Post World War II farm consolidation improved the incomes of most families that remained in farming, and rural industrialization provided better jobs and higher incomes for many other rural workers. Other changes that modernized rural life were also taking place in the 1950's and 60's expanded rural electrification and rural telephone service, improvements in rural educational systems, better transportation linkages to urban markets, upgrading of rural housing quality, etc. Collectively, these changes meant living in rural America did not necessarily imply social or cultural isolation. But most of our rural territory remains sparsely settled with few towns of more than 5,000 or 10,000 people, and most rural economies remain relatively specialized. In fact, the process of local economic development in rural communities after World War II involved moving from one economic specialization to another, as the dominance of natural resource based industry receded. Many rural communities proved too small to achieve significant diversification of their economic base. The overall result was greater diversity among rural areas, but continued local dependence on a few major employers in a small number of closely related industries.

In the 1970's specialization seemed to be an asset for many rural areas. For example, mining and energy counties, riding the wave of rising energy prices and oil embargoes, experienced very rapid gains in employment and income. The economies of many other natural resource-dependent and farming areas were likewise buoyed by boom times in their basic industries. But boom and bust cycles have been frequent in the history of mining, forestry, and agricultural communities, and this time has been no exception.

Over the long-term, economic specialization is a serious handicap for rural areas, because structural decline occurring in a single sector can cause widespread dislocation threatening the viability of the entire community--there are simply no other expanding sectors to take up the slack when decline begins. For rural areas collectively the problem of specialization is made worse by the fact that entire regions may share a common rural economic specialty. Thus, stagnation and decline are not confined to a small number of rural communities.

Elements Of A Rural Policy

Macro Policy

The employment impacts of monetary and fiscal policy vary across regions, depending on the industrial composition of the regions. Overall, rural employment is slightly more sensitive to changes in monetary and fiscal policy than is urban employment. These differences are particularly pronounced in the nonmetro Northeast and South, and appear to be related to the relatively greater importance of manufacturing in these areas. Thus, the fact that the overall performance of the U.S. economy has been relatively weaker since the

peak of the last business cycle in 1979 than it was in the two previous business cycles covering the 1970's, is a partial explanation for the relatively poor performance of rural economies in the 1980's.

The greater dependence of rural economies on farming, especially in the Great Plains, is another part of poor economic performance related to changing monetary and fiscal policy. There is evidence to suggest that agriculture experiences wider swings in prices and asset values as a result of sudden changes in macro policy than the rest of the economy, accentuating the boom and bust cycle farming communities have experienced since the early 70's.

Structural factors, including the serious deterioration in the competitive position of rural manufacturing and declining demand for the products of mining/energy industry are also important. In the two business cycles 1969-73 and 1973-79, rates of employment growth in nonmetro areas exceeded those of metro areas. But from 1979-86, the compound annual average rate of employment growth in nonmetro counties has fallen to only one-third that of metro areas. High real interest rates and a high-valued dollar since 1981, major consequences of the monetary and fiscal policies followed by the U.S. to bring inflation under control, have contributed to financial strains in farming and competitive problems in all rural industries. The dramatic decline in the relative performance of rural economies, however, seems to signal a long-term structural adjustment problem.

No set of sector-specific or community-specific rural development policies will be able to overcome slow growth of aggregate demand in the U.S. and world-wide, or to insulate rural communities from the effects of major changes in monetary and fiscal policies. Rural areas have a significant stake in stable macro policies that achieve the highest possible rates of overall economic growth consistent with reasonable price stability. Such policies may reduce the pace of adjustment in many rural economies, although they will not eliminate structural change. They also increase the opportunities for resources released from rural agriculture, natural resource, and manufacturing industries to be productively reemployed in new activities.

The rural economy is now an integral but distinctive part of the national and global economy. Thus, policies undertaken to achieve broad national goals have significant implications for the performance of rural economies. Education, communications, and transportation policies help to shape the future prospects for rural development. And income maintenance programs will determine the well-being of many rural poor. Rural interests are not likely to be paramount in shaping these national policies; but recognition of the unique economic, social, and institutional capabilities of rural areas is essential if they are not to be inadvertently disadvantaged by national policies.

Sectoral Policy

Public discussion of the need for and desirability of a U.S. industrial policy has largely disappeared, declining roughly in pace with the national economy's recovery from the severe 1979-82 recession and the reemergence of stronger urban growth. That recession, which hit goods-producing industries

particularly hard (U.S. manufacturing lost 2.2 million jobs), followed a decade of unprecedented job, income, and population growth favoring rural areas. Rural growth came, in part, at the expense of urban areas. And the decade of the 1970's also saw serious structural problems begin to emerge in many urban-based manufacturing industries--steel, autos, etc. These experiences contributed to proposals to reindustrialize America, and eventually to the idea of a targeted industrial policy for the U.S.

Such a policy, according to its proponents, would channel resources from public and private consumption into needed infrastructure, research, and capital formation. The principal concern of industrial policy was to overcome a long-term secular decline in U.S. productivity growth, which was determining the Nation's competitive position. Tax reform and regulatory change, as well as programs to direct investment flows into specific industries and regions, were to be used to restore American industrial preeminence. There was disagreement, however, about whether the goal of industrial policy should be to accelerate the rate at which market forces shifted resources into growing industries, or whether it should attempt to support (and perhaps restore) the competitive position of declining industries and the places that depend on them.

Serious practical and theoretical questions have been raised about the appropriateness of public intervention with sector specific policies. For example, it is clear that monetary and fiscal policy have played an important role in creating the structural adjustment problems we are now experiencing. Since 1982, the Federal deficit as a percent of GNP has been at high levels, unprecedented for a peace-time, non-recession period. Rather than finance this deficit out of domestic savings, we have relied on foreign investors. However, between 1980 and 1985 the trade weighed value of the dollar increased by more than 50 percent, virtually guaranteeing a serious trade deficit because of its impact on the competitiveness of U.S. goods at home and overseas. The high-valued dollar also appears to have speeded up the product cycle, leading business firms to seek overseas locations for production of many goods as the only effective strategy to overcome large de facto cost increases. Whether exchange rate changes are the principal problem leading to structural decline in rural industries is an unanswerable question at this time. New labor-saving technologies may allow us to raise productivity and compete more effectively, if exchange rates fall far enough. Even so, it is unlikely that the U.S. will ever recover many of the jobs lost in low-skill, low-wage rural manufacturing industries such as textiles and apparel.

Because evidence of a fundamental decline in U.S. competitiveness is unclear, and because of the very real risk that a targeted program of industrial assistance would be primarily protectionist (attempting to prevent adaptation and change in the U.S. economy), sectoral policy does not now seem an attractive component of rural policy.

Territorial Policy

Rural development policy has most often focused on strategies to ameliorate differentials in levels of economic activity, growth, and rates of return between rural and urban "regions" (and to a lesser extent among rural places).

Mobility of resources is an important way of redressing such differences. In fact, the U.S. economy has been characterized by its capacity to move capital across sectors and between regions (and world-wide) in response to changing market forces. As economic opportunities shifted, large numbers of people have followed. The movement of individuals from areas of low returns to areas of higher returns is not without substantial economic and psychic cost, and given the importance of "place" in our Federal system, it has serious political costs as well. But public intervention to achieve more "balanced growth" is not necessarily without cost.

Most past Federal programs specifically aimed at rural economic development (e.g., Appalachian Regional Commission, Tennessee Valley Authority, Area Redevelopment Administration, and Economic Development Administration) have devoted the majority of their funds to public infrastructure, largely to serve goods-producing firms. There is little reason, however, to believe that future growth patterns in the U.S. economy generally will favor large increases in the absolute number or share of goods-producing jobs. Thus, there is little reason to believe that the expansion or location of manufacturing enterprises in rural areas will play a major role in solving existing economic stress. This raises serious questions about the future effectiveness of rural policy that focuses primarily on financing traditional kinds of goods-producing, industry-serving infrastructure, and promotes programs of local "smoke-stack chasing." Future rural physical infrastructure needs are more likely to be for facilities that reduce rural disadvantage in access to information (and communication).

Rural economic policies need to reflect realistic assessments of the process of structural economic change taking place in the U.S. economy, and potential futures of individual rural areas--their place in economic space, and the degree of urbanization of their region. These policies need to accommodate futures of stability or decline, not just growth. The role of State government has been substantially enhanced by the difficulty of addressing the diversity of rural conditions with national policy and programs. At all levels of government, however, we have been unable to envision and unwilling to design rural policy that includes the reality of decline, preferring instead the myth of universal growth.

The great diversity of rural economies, and the fact that economic stress is not the experience for all rural communities, increases the importance of targeting the public funds available for rural economic development and effectively coordinating programs at the local level. But many rural communities lack the institutional capacity to mobilize local resources, to utilize Federal and State programs, and to develop and carryout successful initiatives in cooperation with the private sector to stabilize or expand their local economies, or to plan for orderly decline. There is an important place for government-supported programs that facilitate a process of rural institutional capacity building, often call community development. Various models exist, including the Federal-State-local partnership of the Cooperative Extension system.

Clearly, an achievable goal for U.S. policy that focuses on rural economic development for the 1980's and 90's is coping with change. Such a policy is most likely to permit rapid overall U.S. growth, provide new opportunities to

reemploy displaced rural (and urban) workers, and generate a political climate that makes public funds available for programs to ameliorate the economic stress of structural change.

Human Resource Policy

Outmigration from rural to urban areas was the dominant theme of U.S. population movement from the turn of the century until the 1970's. It is the dominant theme again in the 1980's.

The twenty-five years from 1945 to 1970 was a period of particularly rapid rural outmigration, largely because of the technological revolution in farming and the dramatic decline in the number of farms and farm population. It is not unusual to find rural counties in the Great Plains, the Corn Belt, and the deep South that reached their peak population in 1900-1910, and now have only 50 or 60 percent as many residents. Because young people are much more likely to move than older people (migration rates for people in their 20's are five times the rates of those in their 60's), the sustained period of outmigration has left the nonmetro U.S. with a lower share of people of prime working age (20 to 44) than the metro U.S. This is a serious constraint to future rural job growth for which there are no politically viable policy solutions.

Since many rural youth end up spending their working lives in urban areas, the success of rural educational systems has a bearing on the capability and skills of both our rural and urban work force. Unfortunately, average rural educational attainment is lower, and the average high school drop-out rate is higher than in our urban areas. Regional variations are noticeable, with the rural South exhibiting particularly serious educational disadvantage. These human resource problems also have their impact within rural labor markets. While cause and effect are not easy to sort out, and other factors are also at work, the relatively low-skill, low wage occupational structure in rural areas is importantly related to the low educational attainment of rural workers. In the manufacturing sector, the different occupational structure of rural firms has been a major source of slow job growth. Between 1979 and 1985 U.S. manufacturing employment actually grew by 10 percent, while blue collar manufacturing employment declined by 15 percent. Because blue collar jobs make up 75 percent of nonmetro manufacturing employment, decline in blue collar jobs has been disproportionately a rural labor market adjustment.

Most of the burden of the economic adjustments occurring in rural America falls on the human resources--displaced industrial workers, displaced farmers and other proprietors, and members of their households. Problems of job loss are exacerbated by difficulties individual workers may face in shifting from production jobs to white collar jobs in the service sector. Skills gained in farming, mining and blue-collar manufacturing employment frequently are of little direct use in the services sector. Also, pay scales are substantially lower in many parts of the services sector. Most who succeed in making the occupational transition may have to accept changes in job tasks. Many may have to move their residences to find new jobs. Thus, human resource policies that equip people for major changes in occupation, and that rely on broad

multi-county, regional, and national labor markets in which to seek reemployment opportunities for displaced rural workers, are critical to successful amelioration of current rural economic stress.

Unfortunately, not all displaced workers will make a successful transition to new private sector jobs. Older workers, those with work-limiting disabilities, and those who lack basic educational skills will be difficult (sometimes impossible) to place. For these people, as well as many of the long-term rural poor, Federal and State public welfare programs, not labor market programs, will determine their future well-being.

Policy Choices

Increased integration of national and international markets, macro and fiscal policies that worsened the U.S. competitive position, and the changing industrial and employment structure of the U.S. economy have led to widespread stagnation in rural economies in the 1980's. The resulting economic stress has been especially serious in rural areas dependent on natural resources, including agriculture, and in manufacturing counties.

The economic adjustments now creating stress in rural areas present a dilemma for territorial strategies. Promoting growth where people currently live and in occupations or industries in which they now work is the least disruptive to existing community and family structures, and is the most politically attractive. But current rural economic adjustments appear to result largely from real competitive disadvantages, not failures of information or capital markets, or from generally inadequate rural infrastructure. Thus, rural policy that provides public subsidies for development in-place may trap resources in inefficient businesses or locations, reducing national productivity and competitiveness. The overall regional and national economy is better served by policy that facilitates a smooth and rapid movement of capital and labor from weaker to stronger industries, and from less competitive to more competitive locations.

The future course of farm employment is almost certainly one of decline. The declining significance of agriculture as an employer of rural workers and as a source of rural income growth has made farm policy ineffective as a strategy to improve general rural well-being. The interests of the agriculture sector and the territorial needs of rural areas would be better served by treating each with separate policies that have distinct objectives.

Diversity among rural communities makes the task of designing a national rural development policy more difficult. Some rural areas may need assistance, others do not, and the kind of assistance likely to be needed varies from State-to-State, and community-to-community. This situation enhances the role of States in developing and delivering rural programs. States may be able to promote collaboration among nearby rural communities, helping each one to identify a specialized role to play as a "neighborhood" in their rural region. Regional rural approaches might make possible some economies of greater scale and the attractiveness of larger and more varied labor markets, thus enhancing the range of feasible development options.

Ultimately, the choice of national rural development policy is political, a balancing of the interests of groups whose future opportunities are being affected by widespread stress and structural change in the rural economy. But it is a balance in which the public at large, not just the most directly affected groups, also has an important stake. The general public, as tax payers and consumers, expect representative government to do more than mirror the power of various special interests. Given the diversity of rural conditions and interests, much of the responsibility for devising program strategies to deal with rural stress will fall to State governments, and successful implementation of programs will depend on the leadership of rural communities. There are, however, significant externalities resulting from rural structural change that provide the economic rationale for a Federal role. That role includes creating a macro environment conducive to economic growth, facilitating multi-state or multi-community approaches to solving rural problems, and assuring adequate levels of investment in rural human resources. The Federal Government also has a comparative advantage in providing information and conducting analyses of broad national and rural economic change that help to shape policy.

How well rural people are educated and trained has the broadest national implications. Many rural communities undergoing structural change will be unable to capture the benefits of higher spending on improved basic education or occupational and skill training and retraining, because graduates of these programs will often leave the community to find better labor market and entrepreneurial opportunities. States may face a similar problem in capturing the benefits of human resource investments. Thus, Federal programs to improve the human capital endowments of rural youth and the rural workforce (including workers dislocated in the current industrial restructuring) are the only way to overcome chronic underinvestment in rural human resources. They also have a major impact on overall economic performance of the Nation, not just on successful rural development.

Some will argue for a broader Federal role based on their perceptions of inequity resulting from the rural stress of structural change. There are human costs associated with geographic and occupational mobility, just as there are economic (and budget) costs associated with policies to slow the process of change. Historically, the strong performance of the U.S. economy has been enhanced by its ability to adapt to changing technologies and marketplace conditions. While there appears to be little disagreement that future adaptation will be required, and that overall public policy should be designed to facilitate that process, there is considerable debate about how structural change should proceed. The question is whether it is appropriate and efficacious for public policy to attempt to prevent structural adjustment for certain industries and to discourage displacement of particular workers in order to try to guarantee the growth of nearly every rural community.

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HUMAN RESOURCE DEVELOPMENT IN RURAL AMERICA: RAYS OF SUNSHINE THROUGH THE CLOUDS

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There is no longer any question that improvements in human resource development are the key to improving competitiveness and economic growth. The changes caused by technology and global competition in the mix of occupations and the nature of work are well and often documented.¹ How to bring about the needed improvements, however, is as complex as the statement of need is simple. Human resource development is even more problematic in rural areas, where resources are scarce and insufficient scale may constrain activities. Rural education has been, and still is, an enigma to education policy makers. It has been perceived as a problem by experts and administrators, to be addressed and reformed. But rural schools have distinctive strengths as well and are remembered by many who attended them-- including many prominent and successful citizens -- with nostalgia and reverence.

I believe that it is important to reiterate some of the major barriers to economic growth in rural America that may be due to insufficient levels of human resources and inadequate education and training opportunities so that policy makers can continue to address them. But there has been a great deal already said about the inadequacies of rural human resources and rural education. It is equally important to identify the educational strengths of rural America.

This paper will briefly summarize selected conditions that can impede competitiveness and then suggest reasons for optimism -- three rays of sunshine to brighten a cloudy economic forecast. They are the size of rural schools and districts, the strengths of vocational agriculture, and the potential of the systems of rural community and technical colleges.

The Condition of Rural Human Resources and Human Resource Development

Nationally, average levels of educational achievement and attainment for rural areas are well below those of urban areas. For example, 14.8 percent of urban adults aged 15 and over had completed college in 1980, but only 8.8 percent of the similar rural population had completed college. Statistics, it ought to be noted, are heavily

weighted by averages in the rural South, as shown in Table 1. The South is the region with the lowest levels of educational attainment; in other regions, urban-rural differences are much less significant.

Table 1.

Percent of Population Aged 15 and Over Completing High School and College, 1980, by Urban-Rural Residency and by Region

<u>Region</u>	<i>High School</i>		<i>College</i>	
	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
Northeast	64.5	64.7	15.1	12.8
North Central	66.1	61.6	13.8	8.2
South	62.7	48.5	14.8	7.2
West	70.1	65.5	15.7	11.8
United States	65.7	56.4	14.8	8.8

Source: Bureau of the Census, *Detailed Population Characteristics; U.S. Regional Summary, Volume 1* (Washington, DC: U.S. Department of Commerce, Government Printing Office, March 1984), Table 316.

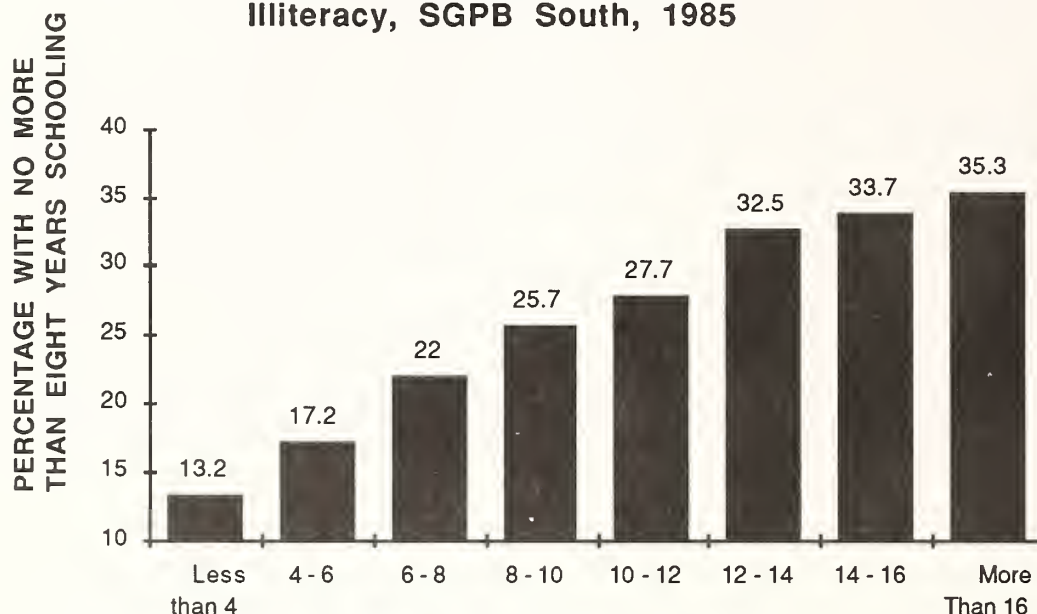
Much of the reason for the South's low levels of attainment among its rural adults can be traced to historically lower levels of spending for public education, segregated schools (more than 90 percent of all the rural Blacks in the nation reside in the South), higher levels of poverty, and an industrial base that did not require or value education. As the South's economy has changed, however, education has become increasingly important. In the 1980s, those counties with the lowest literacy levels are also those with the poorest economies. Figure 1 shows the relationship between levels of attainment and unemployment rates in the South. Counties with the highest levels of unemployment at the end of 1985 also had the highest percentage of adults with no more than eight years of education. One of the major impacts of low levels of education among adults is higher costs of retraining the work force for new jobs. The need for literacy skills prior to retraining combined with diseconomies of scale in sparsely populated areas drives up training costs.

In addition to lower educational attainment, educational achievement has been lower in rural areas. One of many reasons for poorer educational performance is the lack of educational resources. On average, rural school districts still have fewer revenues per pupil for schools than urban school districts, although state equalization formulas in the past decade have reduced disparities. Differences are

due in large part to unequal wealth and the lower tax bases of rural districts. Recent drops in farm values have exacerbated differences in urban and rural tax bases.

Rural-urban differences were compared in three southern states, Georgia, North Carolina and Tennessee. Southern states tend to provide a larger share of support from the state relative to the local share and are less dependent on property taxes, so the disparities would be expected to be less than in other regions. In these states, the ratio of per pupil expenditures in districts located in metropolitan counties were compared to those located in nonmetropolitan counties.

Figure 1. Unemployment and Illiteracy, SGPB South, 1985



UNEMPLOYMENT RATE, END OF 1985

Note: SGPB States include AR, AL, FL, GA, KY, LA, MS, NC, OK, SC, TN, VA. Data are from U.S. Census and U.S. Department of Agriculture

Table 2.

Ratios of Metro to Nonmetro Per Pupil Expenditures in 3 States, 1985-86

Category	Georgia	North Carolina	Tennessee
State and Local Exp. Per Pupil	1.19	1.10	1.31
Local Exp. Per Pupil Only	1.78	1.58	1.81

Source: State Departments of Public Instruction

In all three states the average of metro expenditures per pupil is higher than nonmetro, from a relatively small difference in North Carolina to a significant difference in Georgia and Tennessee. Costs of living admittedly are lower in rural areas, but that must be offset against high costs due to diseconomies of scale in the very smallest districts so that costs of providing services may in fact be equal.

Federal revenues were intentionally excluded from the comparisons since they are mostly targeted to special needs and are not available for the basic educational program. Though not a factor in equalizing the quality of basic educational programs, federal programs are nonetheless critical resources for rural areas, particularly in the South. The federal government provides compensatory education, which is intended to improve the educational performance and attainment of those students most at risk. Due mainly to the high allocations to the rural South, rural areas nationally received 15 percent more federal funding per capita for elementary and secondary education in 1980.²

The next table shows differences in exposure to science and mathematics among rural, urban, and suburban areas. Students in rural schools are less likely to have as many courses in math or in science during their years in public school, and appear to be at a disadvantage in entering careers in scientific fields, many of which are projected to have high growth rates. If, however, some rural schools are providing math and science education in other forms -- such as science through agricultural education -- the most important disadvantage in those schools may be lack of acceptable college entrance requirements, not necessarily lack of knowledge.

Table 3.

Percent of High School Seniors with High Concentrations of Math and Science, 1982

	Number of Courses			
	4	5	6	At Least 4
Science				
Urban	15.2	4.6	3.6	23.4
Suburban	15.4	4.3	2.1	22.8
Rural	13.2	3.1	1.4	17.7
Mathematics				
Urban	30.3	10.6	5.5	46.4
Suburban	32.1	9.8	4.2	46.1
Rural	20.4	5.6	1.9	27.9

Source: **High School and Beyond Tabulations**, Mimeo, National Center for Education Statistics, U.S. Department of Education, April 1984.

Three Rays of Sunshine

Rural human resource development has some unique strengths that are not always recognized or accepted as such and are not fully exploited. They are the size of rural schools, thought to cause economic inefficiencies but often improving educational proficiencies; vocational agriculture, so often perceived as outdated but in reality underrated; and technical colleges, which are becoming focal points for both human resource and economic development.

Size and Organization of Rural Schools: Implications for Reform

The first and unexpected bright spot for rural human resource development is the size of its schools. Many of the strengths and weaknesses of rural schools have been perceived largely as functions of size. Historically, the "rural school problem" was blamed on schools that were too small to be efficient or effective, and consolidation was the conventional reform. Indeed, consolidation did expand opportunities and improve education -- up to a point. One-room schools have virtually disappeared, and the vast majority of rural students today attend schools with at least 200 students. The question is how small is too small? Very small schools can be relatively costly to operate, which has rationalized many a consolidation. But the marginal economic savings resulting from increasing size drop rapidly after a school reaches a few hundred students.

There is a size beyond which the marginal gains drop below marginal increases in costs, and that size may be less than policy makers once thought. A school can be too small to provide diversity within the curriculum and student body, but it can also be too large to provide students with sufficient opportunities for participation in school activities, positions of leadership, and individual attention.³ It can be too small to have a diverse enough teaching staff but too large for teachers and administrators to have the autonomy and flexibility considered now to be essential to excellence in education.

The optimum size for a school, I believe, is smaller than the size generally sought by educational administrators. School consolidation taken too far in search of lower unit costs makes the schools more impersonal and bureaucratic and takes away the principal advantage of smaller size -- the greater opportunities for students to take part in more activities and feel more important to the functioning of the organization. It is also out-of-step with the economic trends toward decentralization and smaller production units. Just as business is moving toward smaller production units and decentralization by out-sourcing, schools can have the same advantages. The size at which schools can operate most effectively is closer to the average size of the rural school, not the urban school.

The importance of school size, while virtually ignored in the various commission reports on education, was cited repeatedly in the results of studies of educational quality. John Goodlad, in *A Place Called School*,⁴ found that one common

characteristic of the schools clustering at the top of his sample in quality of education was small size. "It is not impossible to have a good large school," he wrote, "it is simply more difficult. James Coleman, in the findings of the Panel on Youth,⁵ wrote "there remains the possibility that small schools are better than big schools....the benefits of small size have lain in what are often described as 'intangibles': the quality of relationships, the motivation created, the involvement in common goals." Ernest Boyer, in *High School*⁶ and Gilbert Sewell, in *Necessary Lessons: Decline and Renewal in American Schools*,⁷ echo the view that small schools or small school units are more effective than larger schools, which are the rule in most American cities, because they contain a different school ethos.

A recent article in the *Harvard Educational Review*⁸ predicted that "reforms will fail if they do not prompt schools to forge for themselves an educational identity." Rural schools are more likely to have that needed identity, and if they are given the resources are therefore in a better position to respond to the national call for educational improvements.

Thus rural education, with its tradition of smaller scale and more participation among students, is in a position to more readily adopt the latest educational reforms that focus on school-based innovations. Rural communities have recognized the value of smaller schools for years. Even though they have at times fought for schools that were indeed too small to be effective, they have understood and valued smaller-scale education, where parents and teachers knew one another and teachers and students knew one another.

Looking to the Past: Vocational Education

A second unexpected ray of sunshine for rural education comes from one of its oldest and most successful programs: vocational agriculture. Since the early 1960s, educators and policy makers have formulated vocational education policy on the belief that vocational agriculture was leading rural youth toward phantom jobs in an outmoded economy. President Kennedy's Panel of Consultants on Vocational Education stated in its pathbreaking 1961 report to the nation⁹ that vocational education programs ought to correspond to state and local labor market demand, not local interests and values. And the demand for farmers was rapidly declining.

What the Panel failed to take into account, however, was the deep and very real philosophical and methodological differences between vocational agriculture and other vocational education programs. The uniqueness of vocational agriculture is based in large part on its historical underpinnings, which contrast sharply with the origins of trade and industrial vocational education. Vocational agriculture began as a response to a grass roots movement among those who would enroll their own children rather than as a program proposed by industrialists for someone else's children. Second, it was designed to prepare youth for self-employment, not to be employed by others and thus did not become as narrowly specialized as industrial vocational education. Third, vocational agriculture developed close ties to and support from the

community. And last, it was intended to prepare youth to understand, evaluate, and adopt new technologies in farming, not just to adapt to technological change in the work pace.

Perhaps even more important today, vocational agriculture characteristically includes many of the activities and approaches currently recommended for the improvement of secondary education in general: training for leadership and entrepreneurship, longer periods of time devoted daily to education, a problem-solving approach to learning, high quality teachers, and greater cooperation with the private sector. The breadth and scope of vocational agriculture set it apart from more narrowly focused trade and industrial programs. The agriculture curricula typically include all of the management, finance, and marketing aspects of farming -- skills useful in any small business enterprise. Students are required to operate income-generating projects or experiments and record finances and productivity. The program's problem-solving approach bears many similarities to engineering curricula. Most programs remain housed in the comprehensive high school, making it easier to combine the vocational and academic curricula. And the leadership training provided through Future Farmers of America is widely recognized as the most effective program of its type in the nation and has produced a long line of alumni who have distinguished themselves in politics, science, and many other fields.

It's not often that one can look backward to find a model for the future. But rural education has a too-well kept secret in vocational agriculture, a program that may be the nation's most effective *model* for meeting the skill needs of the emerging economy. The term "model" is crucial, because the strengths of vocational agriculture can be generalized for other occupations, particularly as management styles change and the economy demands broader and more flexible skills, and because vocational agriculture develops entrepreneurship.¹⁰

Many schools, unfortunately, have been influenced by the industrial education philosophy and have strayed from vocational agriculture's traditional goals. Emphasis in vocational agriculture on science, technology, leadership, and cooperation has been lessened by years of pressure to specialize and to become more like other vocational education programs. Some programs simply lack the resources, support, or quality teachers to attain high standards of excellence. But strong vocational agriculture programs are still evident in many schools. The counselor at Jackson County High School in rural Kentucky stated emphatically in the fall of 1987 that vocational agriculture was the strongest and most highly respected program in the school, drawing the best students. A recent analysis of the survey of high school sophomores in 1980 *High School and Beyond* found that in 1984, the 1982 graduates of vocational agriculture programs were earning significantly more than graduates of any other specialized vocational program.¹¹

A study soon to be released by a National Academy of Sciences' Committee on Agricultural Education in the High School recommends that vocational agriculture capitalize on its historical strengths and philosophy. High school programs, the report concludes, should include marketing, management, economics, and public policy;

increase emphasis on scientific principles and processes; and offer greater diversity in subject matter. Further, the Committee will recommend that applied science courses within vocational agriculture be recognized as meeting college science entrance requirements.

The education and training gained by students in vocational agriculture can be adapted to other occupations and careers, and the attributes of vocational agriculture can be adopted to strengthen other vocational education programs.

Linking Education to Rural Development: The Two-Year Community and Technical Colleges

There is yet another ray of sunshine in rural America, a strength that is not a remnant of the past but a rapidly expanding opportunity for the future. That is the two-year technical college. Although the two-year community and technical college is not a uniquely rural institution, the reorientation of the colleges in rural areas, combining the dual missions of education and training with economic development, is primarily a rural phenomenon. The fact that the institutions were built with substantial support from federal economic development legislation enacted to address rural economic needs-- the Appalachian Development Commission and the Economic Development Commission -- is illustrative of their job and income production expectations.

The two-year colleges have developed and matured over the years into effective centers of human resources and human resource development that are only beginning to realize their potential: that is, as catalysts for economic development. Rural community and technical colleges are becoming, in some places, holistic technology resource centers, not only educating individuals to use and understand technology in the work place and to make decisions regarding its use but brokering technology transfer in ways that are as innovative as the technological advances themselves.¹²

The potential characteristics of rural comprehensive community and technical colleges include education ranging from management education to technical associate degree programs to retraining the existing work force to basic literacy programs. They also include technical assistance to small businesses, new business incubators, technology transfer agents, and advanced manufacturing laboratories in which manufacturers can learn about new equipment and test innovative processes.

The centerpiece of the new college is a revised educational curriculum for a "Renaissance Technician." It is a form of broad-based postsecondary education somewhat reminiscent of vocational agriculture because it provides the individual with a solid basic technical and interdisciplinary education and the ability to understand, not just use, technology and to be flexible. This marks a major shift in policy from the highly customized training (pegged to the specific organization and equipment of a single company) that dominated the economic development side of the colleges in the past. Schools like Piedmont Technical College in Greenwood, South Carolina have already instituted programs that begin with basic scientific and mathematical concepts

and communications, and end with students learning about sophisticated manufacturing processes in a problem-oriented, team environment.

Some of the most innovative and ambitious new programs are aimed at creating jobs at the same time students are being educated. The advanced manufacturing demonstration and development center, for example, can be a rural showcase for new technologies and a laboratory for small- and medium-sized companies to try out new processes as well as a place for students to work with employers and demonstrate their skills and talents. Examples of successful rural centers are the Noble Center in the Technical College in Okmulgee, Oklahoma and the Fox Valley Technical Institute in Appleton, Wisconsin. Some schools have actually established technology-based business incubators -- for example, Niagra County Community College, New York and North Central Technical Institute in Wisconsin.

Examples of programs in technical colleges that are directly aimed at economic development include small business assistance centers in 38 of North Carolina's Community and Technical Colleges, technology transfer agents operating out of Ohio's technical colleges and soon to be added to Virginia's Community College system, and the NASA technology transfer system available in South Carolina's technical colleges.

Each of the attributes of rural education mentioned -- smaller scale, vocational agriculture, and community and technical colleges -- if recognized and utilized provides hope for the future of rural America. Assuming that economic growth will hinge on its work force and its human resource base, which in turn will depend on the quality of human resource development, then the future may be brighter than it has been in some time.

¹ Stuart A. Rosenfeld, Ed Bergman, and Sarah Rubin, **After the Factories: Changing Employment Patterns in the Rural South**. (Research Triangle Park, NC: Southern Growth Policies Board, December 1985).

² Norman J. Reid and Eleanor Whitehead. **Federal Funds in 1980: Geographic Distribution and Recent Trends**, ERS Staff Report No. AGES820927. (Washington DC: Economic Research Service, U.S. Department of Agriculture, November 1982).

³ See Roger G. Barker and Paul V. Gump, **Big School, Small School: High School Size and Student Behavior**. (Stanford: Stanford University Press, 1964).

⁴ John I. Goodlad, **A Place Called School: Prospects for the Future**. (New York: Signet Books, 1984).

⁵ James Coleman, et. al., **Youth: Transition to Adulthood**. (Chicago: University of Chicago Press, 1974).

⁶ Ernie Boyer, **High School: A Report on Secondary Education in America**. (New York: Harper Colophon Books, 1983).

⁷ Gilbert Sewell, **Necessary Lessons: Decline and Renewal in American Schools**. (New York: Free Press, 1983).

⁸ David L. Kirp, "Educational Reform and Institutional Competence," **Harvard Educational Review**. 57 (August 1987), pp. 308-331.

⁹ Panel of Consultants on Vocational Education, **Education for a Changing World**. (Washington, DC: Government Printing Office, U.S. Department of Health, Welfare, and Education, 1963).

¹⁰ For more information see "Vocational Agriculture: A Model for Educational Reform" **Education Week**, September 26, 1984.

¹¹ Paul B. Campbell and Andrew Kolstad, "Vocational Education: Nature and Impact." Draft chapter from analysis of High School and Beyond data, National Center for Research on Vocational Education, Columbus, Ohio, December 1985.

¹² Described in more detail in Stuart A. Rosenfeld, "Technical and Community Colleges: Catalysts for Technology Development" in **The Role of the Community, Technical, and Junior Colleges in Technical Education Training and Economic Development**. (Washington DC: American Association of Community and Junior Colleges, June 1987).

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OUTLOOK FOR TIMBER PRODUCTS

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Before we take a look at general economic growth and the various timber product markets, let me begin by saying that most economists and other market analysts feel that the overall situation and outlook has changed since the stock market crash in October. In general, they feel that the consequences of the downturn will be negative; but, as usual there is some difference of opinion as to the extent and length of its effects. In my talk today, I will review trends in the economy and markets through the third quarter of 1987 and present consensus estimates of their prospective growth in the last quarter of 1987 and in 1988. I will then comment on what these trends suggest as to the consumption and production of the various major timber products.

General Economic Trends

The gross national product, a measure of the Nation's total output of goods and services and the most comprehensive indicator of total economic activity, rose at an annual rate of 3.6 percent through the first 9 months of 1987. This was somewhat larger than the 2.5 percent increase during the similar period in 1986, and was the result of a surprisingly large 4.1 percent (seasonally adjusted annual rate) increase in the third quarter.

Late in the period, new orders for durable and nondurable goods and factory shipments were increasing, employment rates remained high, construction spending was increasing, and inflation and interest rates were low by recent historical standards. Although the economy entered the fourth quarter on a relatively upbeat note, as I mentioned earlier, most economists have revised their estimates of near-term growth downward since the stock market collapse in October. Much of the growth in the third quarter was fueled by continued relatively high levels of consumer spending, as well as strong growth in business investment. Many analysts now feel that because of a loss of wealth and, more importantly, lowered confidence in the economy, consumers will begin to cut back on spending and business investment plans will be adversely affected.

With a drop to 2.5 percent in the last quarter of the year--an annual rate of growth seen as probable by some economists--the gross national product for 1987 would average \$3,815 billion, up 2.7 percent from 1986. First quarter growth at an annual rate of about 1.5 percent followed by slow improvement over the last three quarters could push the average for 1988 to about \$3,890 billion.

Major Timber Product Market Trends

New housing units, which in the past have accounted for more than a third of U.S. annual consumption of softwood lumber and plywood and for substantial volumes of other softwood and hardwood products, were started at an annual rate of more than 1.8 million units through the first 2 months of 1987. However, activity peaked in February, generally trended down through June, and was virtually unchanged in July and August. In September, there was an increase, but October starts dropped to 1.51 million, the smallest annual rate since the spring of 1983. When compared with 1986, starts have been below year-earlier volumes for each of the first 10 months in 1987. As a result, the number of units started through October of 1987 was about 10 percent below construction in January-October 1986. Most of the overall drop was due to multifamily units which were down almost 26 percent. Analysts attribute this to a combination of overbuilding in some areas and changes in the tax laws that took effect this year. The 1.3 percent falloff in single-family units is generally attributed to increases in interest rates.

Most economists now feel that since the October market decline, housing demand will be adversely affected by an erosion of wealth and consumer confidence. This will be offset to some extent by somewhat lower interest rates than were formerly forecast; still, the net effect likely will be declines in the number of starts in the last quarter of 1987 and in 1988. With a drop to an average annual rate of 1.5 million units in the last quarter, starts for all of 1987 would total 1.63 million, about 10 percent below 1986. The most recent consensus estimates for 1988 show a further decline of about 8 percent to 1.53 million units.

Single-family units are expected to account for about 70 percent of total starts in 1987 and in 1988, up from 65 percent in 1986. Shipments of mobile homes, down about 5 percent from year-earlier levels through September, are also likely to remain relatively weaker in the remainder of 1987 and in 1988 and total about 230,000 units each year.

Repair and remodeling of residential structures, another major wood products market, apparently has been growing rapidly in 1987. Through September, Bureau of the Census construction surveys show that expenditures for improvements to private residential structures averaged \$51.5 billion (seasonally adjusted annual rate, 1982 dollars), about 3.7 percent above expenditures during the same period in 1986. Census surveys also show residential maintenance and repair expenditures in the first half of 1987 above those during the first half of 1986. Nonetheless, many industry observers feel that both repair and remodeling expenditures have been rising

more rapidly than indicated by the available statistics, primarily because much of the work is of the do-it-yourself type. As for next year, most analysts expect a somewhat lower rate of expenditures, particularly in the first half.

Nonresidential construction activity through the first 9 months of 1987 has been relatively weaker than during the similar period in 1986. Expenditures through September averaged \$173.1 billion (seasonally adjusted annual rate, 1982 dollars), down 3.4 percent from January-September 1986. Over this period activity fluctuated somewhat but remained below monthly year-earlier levels until September. The seasonally adjusted annual rate of expenditures for all nonresidential construction in September was \$176.6 billion (1982 dollars), up about 4 percent from the low reached in June, but still 1 percent below the average for all of 1986.

A number of factors, including lack of investment incentives under the new tax laws and past overbuilding of office and hotel and motel space in some major markets, apparently have contributed to the lack of growth through most of the year. Many of these factors persist, and when coupled with the current economic outlook, suggest to most economists that the rise shown in September was probably temporary and little growth can be expected late in the last quarter of 1987 and in 1988.

The index of manufacturing production--an important indicator of the demand for pallet lumber, container board, and some grades of paper--rose to a seasonally adjusted value of 136.8 (1977=100) in October. Although this was less than 1 percent above the September index, it represented an increase of almost 5 percent since January. The indexes of production for the major wood-using industries have also been rising in 1987. For example, the index of furniture and fixtures manufacture--with some fluctuation at mid-year--rose 7 percent between January and September, presumably in response to increased consumer spending and to the relatively high levels of housing sales over the past 4 years. The index of paper and products manufacture has also grown, increasing by about 6 percent over the same period.

Although the indexes for the major wood using manufacturing industries have trended up during 1987, recent growth has been slow and most analysts foresee only small additional increases in output in the last quarter and in 1988. The extent of any prospective declines will depend, in large part, on consumer confidence and expenditures as discussed before.

In summation, markets for the major timber products have shown somewhat mixed trends over the first 10 months of 1987. However, current economic conditions and prospective trends in some of the important indicators point to lower levels of demand in the last months of the year and in 1988. Most important for the major softwood products are the prospective declines in housing and other construction. The outlook for hardwoods will be most affected by the trends in the manufacture and shipment of consumer and other goods.

International Markets

The United States is the world's leading importer of timber products--chiefly softwood lumber, wood pulp, and paper and board from Canada, and veneer and plywood from southeast Asia. The total value of these imports in 1986 was \$13.3 billion, about 3.6 percent of the value of all U.S. imports. In terms of roundwood equivalent (i.e., the estimated amount of wood required to produce the individual products), more than a fifth of our apparent consumption of timber products in recent years has been imported.

The United States is also a major timber products exporter, second only in value to Canadian shipments. In 1986, the value of our timber product exports was \$7.7 billion--about 3.7 percent of our export total. Although we ship a wide variety of timber products to many different countries, our principal export markets are Japan for softwood logs and lumber, pulp chips, wood pulp, and paper and board products, and western Europe for lumber, plywood, wood pulp, and paper and board. In recent years China has also become an important market for softwood logs.

According to data presented at the October meeting of the Timber Committee of the Economic Commission for Europe, economic growth in most of our major European markets has been rising modestly in 1987 with additional increases expected in 1988. Although some countries reported constrained demands for timber products because of relatively slow economic growth and sluggishness in new housing construction, most were experiencing continued high levels of activity in the renovation and maintenance of older dwelling units. As a result of these trends, and more importantly, continued declines in the value of the dollar in relation to the currency of our major trading partners, exports of most products to these markets through the first 8 months of 1987 were up sharply from the similar period in 1986. Exports to Japan were also ahead of year-earlier levels, although shipments of logs and lumber to China have declined. Overall, the outlook for U.S. exports of timber products is for a relatively large rise for many in 1987 with continued but smaller increases in 1988. Imports, in general, likely will be constrained by lower demand and continued unfavorable exchange rates.

Timber Products Consumption, Trade, and Production

Softwood Lumber

According to data from the National Forest Products Association, U.S. softwood lumber consumption in the first 8 months of 1987 was about 4.8 percent above that in the same period in 1986. Current expectations about trends in housing and the other softwood lumber markets indicate the likelihood of some slowing in the final quarter of the year. Thus, consumption for all of 1987 is estimated at about 48.0 billion board feet (table 1). This would be a record volume, about 3 percent above the old record 46.6 billion board feet consumed in 1986.

Table 1.—U.S. wood products production, consumption, and trade
(1984-86 actual, 1987-88 projections)

Product	Year	Domestic production	Imports	Exports	Apparent consumption
Softwood lumber (billion bd. ft.)	1984	30.8	13.3	1.6	42.5
	1985	30.6	14.6	1.5	43.6
	1986	34.2	14.3	1.9	46.6
	1987	36.2	14.2	2.4	48.0
	1988	33.8	13.7	2.5	45.0
Hardwood lumber (billion bd. ft.)	1984	6.3	.3	.5	6.1
	1985	6.0	.4	.4	5.9
	1986	7.4	.3	.5	7.2
	1987	7.6	.4	.7	7.3
	1988	7.0	.3	.8	6.5
Softwood plywood (billion sq. ft., 3/8-inch basis)	1984	18.9	.1	.4	18.6
	1985	19.3	.1	.3	19.1
	1986	19.9	.1	.6	19.5
	1987	21.1	.1	.8	20.4
	1988	19.8	.1	.9	19.0
Hardwood plywood (billion sq. ft., 3/8-inch basis)	1984	.9	1.5	1/	2.4
	1985	.8	1.7	1/	2.5
	1986	.8	1.9	.1	2.7
	1987	.8	1.9	.1	2.7
	1988	.8	1.6	.1	2.3
Particleboard ^{2/} (billion sq. ft., 3/4-inch basis)	1984	4.0	.6	.1	4.5
	1985	4.1	.6	.1	4.6
	1986	4.5	.6	.1	4.9
	1987	4.8	.5	.2	5.1
	1988	4.4	.4	.2	4.6
Hardboard ^{3/} (million tons)	1984	2.0	.3	.1	2.2
	1985	2.1	.3	.1	2.3
	1986	1.9	.3	.1	2.2
	1987	1.8	.3	.1	2.0
	1988	1.7	.3	.1	1.9
Insulation board (million tons)	1984	.9	.1	4/	.9
	1985	1.0	.1	4/	1.1
	1986	1.0	.1	4/	1.0
	1987	.9	.1	4/	1.0
	1988	.8	.1	4/	.9
Pulpwood (million cords)	1984	91.5	1.8	1.9	91.4
	1985	87.3	.7	1.9	86.1
	1986	93.4	.6	1.9	92.1
	1987	96.5	.3	2.1	94.7
	1988	97.8	.3	2.1	96.0

1/ Less than 50 million square feet.

2/ Includes medium density fiberboard. Imports include unknown quantities of waferboard.

3/ Shipments.

4/ Less than 50,000 tons.

Note: The projections for 1987 and 1988 are based on the trends in the major markets discussed in this paper and should not be viewed as forecasts of actual volumes. Data shown are subject to rounding.

Sources: U.S. Department of Agriculture, Forest Service estimates based on data from the U.S. Department of Commerce, American Hardboard Association, American Paper Institute, American Plywood Association, American Pulpwood Association, National Forest Products Association, National Particleboard Association, and Western Wood Products Association.

Imports of softwood lumber, nearly all from Canada, have slowed somewhat over the first 8 months of 1987. Through August, total softwood lumber imports were about 5 percent below the similar year-earlier period. However, imports during the last 4 months of the year are expected to be somewhat stronger than in the last 4 months of 1986, a period in which the combined effects of a strike in Canadian mills and a decline in U.S. housing starts, caused a marked drop in shipments to U.S. markets. As a result of these different year-to-year patterns, total imports for 1987 are expected to be down less than 1.0 percent to 14.2 billion board feet.

Exports through the first 8 months of 1987 were up 26 percent from January-August 1986. Many observers feel that this trend, the result of somewhat improved offshore markets and the U.S. dollar decline relative to other currencies, will continue. As a consequence, exports for the year are likely to total 2.4 billion board feet.

Through August, U.S. production of softwood lumber was about 10.6 percent above the similar months in 1986 according to information from the National Forest Products Association. With somewhat slower markets expected in the last months of the year, production for all of 1987 should amount to about 36.2 billion board feet, 5.8 percent more than was produced in 1986.

Present expectations about housing and the other important softwood lumber markets suggest that a decline in consumption to about 45.0 billion board is likely in 1988. As overall demand drops, imports are projected to fall to about 13.7 billion board feet. Exports are expected to rise to 2.5 billion board feet and production to drop about 6 percent to 33.8 billion.

The price of domestically produced softwood lumber, though fluctuating somewhat, has been rising in 1987. For example, the October producer price index was 379.6 (1967=100) (table 2). This was about 4 percent below the September index; however, it indicated an overall increase of 8 percent since January. Nonetheless, with the prospective slowdowns in consumption in late 1987 and 1988 discussed earlier, a large and sustained rise in prices is not likely.

Hardwood Lumber

Data published by the National Forest Products Association show hardwood lumber consumption through the first 8 months of 1987, up about 0.3 percent from that in the similar period in 1986. If industrial markets continue at only slightly higher levels in the last months of the year, consumption, based on Bureau of the Census data, is likely to reach 7.3 billion board feet, about 1.5 percent above the 1986 total.

Hardwood lumber imports through August were about 25 percent above those in the first 8 months of 1986 and only a little slowing is expected in the last months of the year. The total for the year is thus estimated at 0.4 billion board feet. Data through August show that exports were up 26 percent from the first 8 months of 1986. The total for the year is expected to be 0.7 billion board feet, about 150 million board feet above the volume exported in 1986.

Table 2.--U.S. producer price indexes for selected timber products
(1967=100)

Product	Annual			October	
	1984	1985	1986	1986	1987 <u>1/</u>
Softwood lumber	353.9	345.3	348.5	349.9	379.6
Hardwood lumber	319.7	307.2	310.2	313.2	341.1
Softwood plywood	303.6	302.9	308.7	311.7	316.0
Hardwood plywood <u>2/</u>	180.3	162.7	164.7	167.0	168.4
Particleboard <u>3/</u>	116.6	110.3	112.5	116.1	127.6
Hardboard	233.6	235.3	237.0	239.6	231.8

1/ Preliminary.

2/ Hardwood plywood and related products.

3/ Platen-type(mat-formed). December 1982=100.

Source: U.S. Department of Labor, Bureau of Labor Statistics.

Production of hardwood lumber in 1987, based on the above estimates of consumption and trade, is estimated to reach 7.6 billion board feet, about 2.7 percent above production in 1986. Anticipated slowing in the important hardwood lumber markets in 1988 suggests that a drop in production and consumption is likely in 1988. Imports are also expected to decline, but exports should continue to rise.

Hardwood lumber prices have been slowly rising in 1987. The October producer price index--341.1 (1967=100)--was 6.7 percent above the January index and almost 10 percent above the average for 1986. Prices for hardwood lumber are generally less volatile than those for softwood lumber, but in many instances tend to follow the same general trends.

Softwood Plywood

Although new housing construction, traditionally the most important softwood plywood market, has remained below year-earlier levels through the first 10 months of 1987, other markets such as maintenance and repair construction and manufacturing and shipping have improved. As a result, softwood plywood consumption is relatively stronger than in 1986. Total consumption in 1987 is expected to rise to 20.4 billion square feet (3/8-inch basis), about 4.6 percent more than was used in 1986.

Data for the first 8 months of 1987 show softwood plywood exports nearly 40 percent above shipments during the similar period in 1986, with significantly larger shipments to nearly all of our major offshore markets. This trend is expected to continue and total exports for 1987 are expected to rise to 0.8 billion square feet. Imports were down 6 percent through August and are likely to total about 0.1 billion board feet for the year.

With these levels of consumption and trade, production for the year will increase to 21.1 billion square feet, up about 6 percent from total output in 1986.

For 1988, with the prospective drop in use in new housing construction and slow growth in other markets, total consumption is expected to drop about 7 percent to 19.0 billion square feet. Imports are likely to remain at about 0.1 billion square feet and exports to increase to 0.9 billion. As a consequence, production should total 19.8 billion square feet, about 6.2 percent below the estimate for 1987.

Softwood plywood prices, as indicated by the producer price index, dropped 3.5 percent in October, after showing no sustained trend through the first 8 months of the year. Softwood plywood prices have fluctuated somewhat, but overall have been relatively flat since the late 1970's. The October producer price index--316.0 (1967=100)--indicated prices virtually the same as during the summer of 1978. If demand declines in 1988 as described earlier, a sustained rise in prices is not likely.

Hardwood Plywood

Consumption of hardwood plywood in 1987 is expected to be near 2.7 billion square feet (3/8-inch basis), about the same volume as in 1986. Trade data through August indicate that imports are likely to total 1.9 billion square feet, also near the total in 1986. Exports are expected to remain relatively small at about 0.1 billion. With these trends in consumption and trade, production for 1987 will total 0.8 billion square feet, the same volume as in 1986.

Much of the hardwood plywood consumed each year is used in residential construction, as well as in the manufacturing sector. As a consequence, a decline in consumption, imports, and a small drop in production is likely in 1988. Exports are expected to remain close to 0.1 billion square feet.

Hardwood plywood prices, as indicated by the producer price index, have changed very little over the past year. Moreover, the index for October--168.4 (1967=100)--was still below those for all years between 1978 and 1985.

Particleboard and Medium Density Fiberboard

Activity in the major markets and shipments data from the National Particleboard Association indicate that combined consumption of particleboard and medium density fiberboard through the first half of 1987 was up from

year-earlier levels. For the year, combined consumption of these two products is likely to total close to 5.1 billion square feet (3/4-inch basis), about 4 percent above total use in 1986. Roughly a fifth of the total is expected to be medium density fiberboard.

Data from the Bureau of the Census for the first 8 months of 1987 suggest that imports are likely to drop to 0.5 billion square feet and exports to rise to about 0.2 billion. With these estimates, production would amount to 4.8 billion square feet, 6.7 percent above production in 1986.

Trends in the major markets discussed earlier, suggest that consumption, imports, and production will decline in 1988. Exports are likely to remain near 0.2 billion square feet.

Hardboard and Insulation Board

Based on shipments through the first 7 months of the year, hardboard consumption in 1987 is estimated at 2.0 million tons, about 7 percent below total use in 1986. Imports and exports are expected to remain close to 0.3 and 0.1 million tons, respectively. With these levels of consumption and trade, production would amount to 1.8 million tons down, 5 percent from output in 1986.

Markets during the first three quarters of 1987 indicate that consumption of insulation board for the year will be near 1.0 million tons--about the same as in 1986. Imports are expected to be about 0.1 million tons and exports less than half as large. Consequently, production is likely to reach 1.0 million tons, little changed from the total in 1986.

Hardboard and insulation board consumption and production are likely to drop in 1988, with the declines expected in housing and the slow growth in prospect for the major manufacturing markets. Imports and exports for both products will probably show little change.

Pulpwood

Paper and paperboard production and consumption moved steadily upwards through the first 9 months of 1987, with record high annual rates of production reached in the third quarter according to data from the American Paper Institute. As a consequence, pulpwood consumption was also at a record rate in September, almost 3 percent above the year-earlier level. Paper consumption and production are sensitive to trends in total economic activity. Thus, if overall economic growth slows late in the year and in 1988, pulpwood demand could also be expected to moderate somewhat. Based on the trends in the economy discussed earlier, pulpwood consumption (roundwood and chips) is expected to total about 94.7 million cords in 1987, up about 2.8 percent from the record volume consumed in 1986.

Imports of pulpwood, mostly pulpwood chips from Canada, have dropped sharply from year-earlier levels through the first 8 months of 1987, according to Bureau of the Census data. As a result, imports for the year are expected to

total 0.3 million cords. Exports are estimated at 2.1 million cords, about 10 percent above exports in 1986. All of the increase in exports is likely to be in the form of pulpwood chips.

Pulpwood consumption in 1987, given the above estimates of consumption and trade is expected to rise to 96.5 million cords, 3.3 percent more than was produced in 1986.

Consumption and production of pulpwood also are expected to increase in 1988, but at a slower pace than over the past 2 years. There probably will be little change in imports and exports.

Softwood Log Trade

Exports of softwood logs during the first 8 months of 1987 totaled 2.6 billion board feet, up about 18 percent from the 2.2 billion board feet shipped to offshore markets during the same period in 1986. This overall rise was the result of a large increase in exports to Japan which was partially offset by a 10 percent drop in shipments to China, a market that grew rapidly in 1980-85, but has declined somewhat in the past 2 years. Exports for the year to all destinations are estimated to reach about 4.1 billion board feet. Industry sources indicate that the outlook for 1988 is for an additional, though smaller, rise.

Imports of softwood logs, nearly all from Canada have declined sharply in 1987 and are expected to total less than 0.1 billion board feet in 1987 and 1988.

Hardwood Log Trade

Hardwood log exports for 1987 are estimated at 0.2 billion board feet, up about 35 percent from 1986. Although the volume is small in comparison to softwood log exports, most of the logs exported in 1987 and in recent years have been high quality oak, walnut, and other preferred species that are in short supply in the United States.

Hardwood log imports in 1987 are expected to be close to 15 million board feet, roughly half the volume imported in 1986. Only about 5 percent of the total volume is expected to be tropical species.

Industrial Roundwood Summary

Given the trends in consumption, trade, and production for the various products in 1987, total consumption of all industrial roundwood products (i.e., all roundwood products except fuelwood) is expected to be about 2.0 percent above the volume consumed in 1986 and to top 16 billion cubic feet for the first time. Production and exports also will be above year-earlier levels. Imports will show a small decline. Consumption, imports, and production will all decline somewhat in 1988 if the major markets follow the trends discussed earlier. Exports are likely to continue up, though more slowly than in 1987.

Fuelwood

Current estimates indicate that fuelwood consumed for domestic cooking and heating has risen to about 51 million cords. Various surveys of the forest products industries show that there also have been large increases in the use of fuelwood for industrial heat and power generation in the past few years. Apparently much of the wood being used for domestic purposes is produced by consumers from trees in urban areas, fence rows, dead forest trees, and other similar sources not normally drawn upon for industrial products. Most of the growth in use by the forest products industries has come from increased utilization of logging and mill residues.

Studies have shown that in the short run fuelwood consumption is largely determined by such factors as the prices of alternate fuels and weather conditions during the heating season. Trends in the longer run are dependent on alternate fuel prices and the costs of converting to alternate power sources.



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NEW PATTERNS OF WORLD TRADE IN HARDWOOD TIMBER PRODUCTS

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Abstract.--There have been dramatic changes in the hardwood export market in the past 10+ years. World demand for U.S. hardwood logs, lumber, and veneer has nearly tripled since 1975. Exports to Europe and particularly the Pacific Rim have grown significantly. A quantitative assessment of the U.S. export situation is presented with estimates of potential 1987 and 1988 hardwood exports. Also addressed are such issues as the importance of exports to our primary industry, our hardwood resource situation, and likely short-term future developments in the hardwood export market.

INTRODUCTION

The following is a discussion of past, present, and projected 1987 and 1988 demand for U.S. hardwoods on the export market. Included is a summary of the export situation, a discussion of major U.S. export products and their importance, information on major export markets for U.S. hardwoods, and likely short-term future developments in the hardwood export market. Specifically, we explain why, during the last 10+ years, the United States has become a major supplier of hardwood products to the international marketplace, and our changing trade patterns. And why, as the latest FAO world forest products data show, the United States in 1983 ranked No. 2 in the world in hardwood lumber exports and No. 5 in hardwood log exports based on value of shipments. And why the United States in 1983 ranked No. 3 in the world in hardwood lumber exports and No. 9 in hardwood log exports based on quantity of shipments.

HARDWOOD EXPORTS ARE IMPORTANT

Exports have become increasingly important to our primary processing industry. In 1979, the United States exported about 4 percent of its hardwood lumber production. In 1983, U.S. exports were about 8 percent of production. Even more impressive is that the estimated value of these hardwood lumber exports in relation to total lumber shipments grew from 10 percent in 1979 to around 20

percent in 1986. In other words, about \$1 of every \$5 received by the hardwood sawmill industry in 1986 was a result of export sales.

HARDWOOD EXPORT PRODUCTS ARE DIFFERENT

Product specifications for logs, lumber, and veneer on the export market often are quite different from those for products sold on the domestic market. Log exports are primarily of veneer quality. Export veneer is cut thinner and clipped and packaged differently.

Hardwood export lumber in particular is the most different. It is sold kiln dried, double-end trimmed, end coated, branded, labeled, strapped, and protected with corner cardboard. Lumber is reinspected after drying to remove badly dried boards and is sometimes completely wrapped with plastic for protection. Most bundles are accompanied by a tally sheet showing the measurements of all boards. Most export lumber is shipped in protective containers that also provide much needed security, whereas most domestic shipments are made on flatbed trailers with tarps to protect kiln-dried lumber from the elements.

TRADE HAS BEEN SHIFTING AND GROWING

Twelve years ago, Pacific Rim demands for U.S. hardwood logs, lumber (this includes some rough dimension), and veneer were minor (Table 1). In 1975, Canada purchased more than 71 percent of our exports; Europe was second with nearly 25 percent, leaving the Pacific Rim with less than 4 percent. (Smaller amounts--generally of less than 1 percent--have been and are being shipped to other parts of the world.) By 1980, Europe had taken the No. 1 spot, consuming 52 percent of our exports. Canada's share dropped to 41 percent, and the Pacific Rim share increased to nearly 7 percent. Figures for 1986 show the Pacific Rim to be a full participant in our world export marketplace, demanding 33 percent of U.S. hardwood log, lumber, and veneer exports. At the same time, the European share dropped to 38 percent and the Canadian share dropped to 28 percent. Note that during this period of shifting demands, total exports almost tripled from 1975 to 1986.

Table 1.--Hardwood (log, lumber, and veneer) exports for 1975, 1980, and 1986, in million board feet

Destinations	1975 exports	1980 exports	1986 exports
Canada	147	202	175
Europe	51	256	238
Pacific Rim	8	33	203
Total	206	491	616

Source: U.S. Department of Commerce.

Why have hardwood exports to the Pacific Rim increased at such a tremendous pace? Or, stated another way, why have our hardwood producers turned to this market to sell their products? And why have they been so successful in the last 6 years? Several factors can be credited.

During this period, sales in Europe and Canada were hurt by the increased value of the U.S. dollar and slowed economic growth in these countries. At the same time, U.S. imports of furniture and furniture parts were increasing, reducing domestic demand for logs, lumber, and veneer. On the other side of the globe, log embargoes by Indonesia, Malaysia, Singapore, and the Philippines to Taiwan and Korea caused a restructuring and redirection of Taiwanese and Korean industry from the manufacture of plywood to the manufacture of furniture. This created different material needs that required new sources of supply and new product markets. Japan's hardwood consumption also was increasing, putting pressure on that country's limited hardwood resources and causing the Japanese to turn to America since our woods are similar in many respects to those of Japan and are readily available.

For the last year and half, the market demands in the Pacific Rim area continued to grow because of the need for our wood, while the weakening of the U.S. dollar and improved economies have perked hardwood exports to Europe and Canada. Figure 1 shows how the overall market has changed and what might happen through 1987 and in 1988.

RECENT HARDWOOD EXPORTS

In this section we look at recent U.S. hardwood product exports to the major purchasing nations. On a dollar basis, Taiwan was the No. 1 importer of hardwood products (logs, lumber, and veneer) from the United States in 1986 (Table 2). Taiwanese importers purchased more than \$92 million of hardwood products, with more than \$66 million of that amount in lumber form, \$15 million in logs, and \$11 million in veneer. West Germany and Canada followed closely. The Canadians purchased mainly lumber, while the West German buyers purchased more veneer and logs than lumber on a value basis. The other major markets for American hardwoods were, in order of importance, Japan, United Kingdom, Belgium, Italy, South Korea, Spain, the Netherlands, and France.

The major species purchased from the United States were red oak, white oak, and a category called "other" (Table 3). These three species groups made up 80 percent of log exports, 90 percent of lumber exports, and 90 percent of veneer exports in 1986. The "other" category contained popular species such as cherry and alder.

Recent exports and exports as far back as 1975 are shown in Figures 2-4 for log, lumber, and veneer exports to Europe, Canada, and the Pacific Rim. Also shown are projections for 1987 and 1988 based on the export totals for the first 7 months of 1987 and 1986 exports. For logs, we show slight growth in exports to Europe and Canada; however, note that European demands are close to their recent peak in 1980. Pacific Rim demand for logs continues to roll along with excellent gains projected in 1987 and 1988.

Table 2.--U.S. hardwood product exports, by country, 1986

Country	Logs		Lumber		Veneer		Total value (M \$)
	Quantity (M bf)	Value (M \$)	Quantity (M bf)	Value (M \$)	Quantity (M ft ²)	Value (M \$)	
Belgium	2,470	3,307	27,559	24,057	22,656	1,869	29,233
Canada	21,673	8,279	149,037	70,391	143,199	8,545	87,215
France	1,923	1,686	8,493	6,612	16,940	1,317	9,615
W. Germany	61,862	31,968	25,448	23,492	386,395	32,009	87,469
Italy	3,897	5,044	19,140	16,028	39,225	3,634	24,706
Japan	10,024	13,440	61,162	45,324	20,413	1,108	59,872
S. Korea	6,013	5,967	5,040	3,113	35,698	3,595	12,675
Netherlands	818	1,034	13,315	10,279	1,176	67	11,380
Spain	1,010	1,566	9,501	8,221	26,734	1,993	11,780
Taiwan	18,411	15,062	88,767	66,321	114,166	11,010	92,393
U. Kingdom	561	498	29,880	24,229	57,717	5,288	30,015
Other	10,221	9,414	60,942	39,071	131,443	11,328	59,813
Total	138,883	97,265	498,284	337,138	995,762	81,763	516,166

Source: U.S Department of Commerce.

Table 3.--Major U.S. log, lumber, and veneer exports, by species, 1986

Species	Logs		Lumber		Veneer		Total value (M \$)
	Quantity (M bf)	Value (M \$)	Quantity (M bf)	Value (M \$)	Quantity (M ft ²)	Value (M \$)	
Birch	3,919	1,334	in "Other"		5,225	311	1,645
Maple	11,091	4,688	25,138	8,789	24,441	1,484	14,961
Red oak	32,614	19,213	247,155	159,928	236,318	16,533	195,674
White oak	65,581	35,861	89,960	79,163	402,960	37,647	152,771
Ash/hickory	in "Other"		28,824	16,005	in "Other"		16,005
Walnut	5,587	12,983	11,001	7,730	72,642	6,300	27,013
Other	20,091	23,186	96,206	65,523	254,176	19,478	108,187
Total	138,883	97,265	498,284	337,138	995,762	81,753	516,256

Source: U.S. Department of Commerce.

Hardwood lumber exports have reached an unusual situation with almost equal amounts going to all three market areas. And all three markets are growing at almost equal, very positive rates. The Pacific Rim market is showing slightly less growth than the other two markets. This could be due to overbuying because some of the ultimate purchasers are dependent on U.S. hardwoods. Unknown amounts of rough-dimension stock are mixed in with lumber in this category. It would be extremely helpful to have information on the extent of our rough-dimension exports.

Hardwood veneer exports took a positive turn to the European market in 1986 and it appears that they will reach record levels in 1987 and even higher levels in 1988. Canadian demands for veneer also are projected to increase in 1987 and 1988, but at a lower rate than the European increases. Combined Canadian and Pacific Rim demands for veneer are only about 50 percent of European shipments. Pacific Rim demands for American veneer appear to have leveled off temporarily. This could be due to overbuying or attempts to find cheaper substitutes for the increased demands.

MARKET SUMMARIES

Canada is the largest single nation importer of U.S. hardwoods. Canada also has been a steady customer of American hardwood products. However, it does re-export some of our lumber, mostly to Europe. It also exports veneer manufactured from imported U.S. logs. Canada probably will maintain its position as the No. 1 importer of U.S. hardwoods.

Shipments of lumber to Western Europe increased dramatically from 1973 to 1983 but dropped off in 1984 and even further in 1985. In 1986, shipments increased to nearly the record levels achieved during 1980-83. Veneer and log exports also increased in 1986. Log exports approached 1980 totals. We look for moderate growth in the near future, though economically derived, technological changes are taking place that could lower short- and long-term demands. Traditional European furniture products are being made with less solid wood and more veneer and paperfoil-wrapped particleboard. This is due in part to increased competition for the European consumer's "dollar," causing manufacturers to maintain or lower prices by reducing the size of furniture produced and/or the cost of materials used in furniture manufacture. Too, higher costs for hardwood raw material are making European furniture more expensive, causing some manufacturers to switch to substitute solid wood or, where possible, less expensive species. On the positive side, U.S. suppliers are considered to be reliable sources who can supply hardwood material when, in general, demands increase as we are presently experiencing.

The Pacific Rim market has been growing and now demands the equivalent of 203 million board feet, or 33 percent of total U.S. hardwood log, lumber, and veneer exports. This material is shipped primarily to Japan and Taiwan. The Taiwanese are purchasing mainly red and white oak to process into finished parts and furniture for export. Their largest furniture export market is the United States. According to Taiwanese statistics, 63 percent of Taiwan's wood furniture exports from 1980 to 1984 were shipped to the United States. Indications lean toward continued growth in Taiwanese furniture exports to the United States and elsewhere, which, in turn, will increase Taiwan demand for American hardwoods.

The Japanese have been buying mainly red alder, black cherry, yellow-poplar, red oak, white oak, and cottonwood. Two-thirds of these purchases are dressed or planed, kiln-dried lumber (mostly red alder). In contrast with Taiwan, U.S. hardwoods going to Japan are used as substitutes for Japanese hardwoods. Future Japanese needs will depend on many internal market factors and will be influenced mainly by Japan's limited domestic hardwood resources and the desire for real wood of temperate hardwood types.

WHAT ABOUT OUR HARDWOOD RESOURCES

Generally, the same select hardwood species are popular on both the domestic and export markets and both markets are experiencing real growth. The major select species demanded have been the select red and white oaks, yellow birch, hard maple, black walnut, black cherry, and the ashes. The stronger demands have stirred many supply-side concerns. For instance, can the United States continue to supply both the domestic and export markets--can U.S. exports increase? Are U.S. resources being depleted? How much secondary-quality material will be produced in the future while generating the needed top-quality clear or almost clear high-grade export material?

The answers to these questions are just as important to secondary-product producers in the United States as they are to overseas end users. In this section, we look at estimated 1985 sawtimber volumes for the Eastern United States and projections for 1990, 1995, and 2000. Next, we look at the log grade distribution in U.S. commercial sawtimber resources and translate these data into estimates of top, secondary, and lower grade lumber output.

Sawtimber quantities

Resource data were compiled on all hardwood sawtimber and on the group of species defined previously as select species from USDA Forest Service state resource evaluation reports. For each state, hardwood sawtimber inventory, growth, removals, and quality data were collected for the reported survey year. The data were then adjusted to a 1985 base and combined into the eastern hardwood summary in Table 4.

Table 4.--Estimated eastern sawtimber volumes for 1985, and percent compound annual inventory changes in billion board feet (International 1/4-inch rule)

Saw-timber volumes	All commercial hardwoods	All select hardwoods	Select oaks	Hard maple	Ash, walnut, cherry	Yellow birch
1985 est.	727.9	233.0	136.9	43.4	44.0	8.8
% change	2.2	2.4	1.8	3.2	3.0	1.5

The eastern results show that 32 percent, or 233 billion board feet (International 1/4-inch rule), of the 1985 estimated sawtimber inventories are in the select sawtimber species. Of that total, 59 percent are select oaks; 18 percent hard maple; 19 percent ashes, walnut, and cherry; and 4 percent yellow birch. This review also revealed that the select species are increasing slightly faster than all commercial hardwood sawtimber inventories (2.4 vs 2.2 percent). The hard maple and the combined ash, walnut, and cherry resources also are increasing faster than the select oaks and yellow birch inventories.

Using the 1985 estimates, the percent annual inventory changes, and assuming the continuation of past resource-use trends, we estimated sawtimber volumes for 1990, 1995, and 2000 (Table 5). The projections show positive inventory growth for the Eastern United States for all categories. By the year 2000, 33 percent

of the eastern sawtimber could be in the select species--up slightly from 1985. Further, by the year 2000, the eastern select species sawtimber resources may increase by 42 percent.

Table 5.--Estimated eastern sawtimber volumes for 1985 with projections for 1990, 1995, and 2000 in billion board feet (International 1/4-inch rule)

Year	All commercial hardwoods	All select hardwoods	Select oaks	Hard maple	Ash, walnut, cherry	Yellow birch
1985	727.9	233.0	136.9	43.4	44.0	8.8
1990	811.5	261.9	149.9	50.8	51.0	9.5
1995	904.9	294.4	164.3	59.5	59.3	10.2
2000	1008.8	330.9	180.1	69.6	68.9	11.1

Sawtimber qualities

Two hardwood grading systems are used to present information on the quality of standing sawtimber hardwood resources in the Eastern United States. The first is a log grading system and the second is a lumber grading system. In general, top grade FAS&Sel (Firsts-and-Seconds and Select) lumber is used for mouldings, millwork, export, and other market demanders of clear or almost clear lumber. Secondary-quality lumber, graded 1C (No. 1 Common) and 2C (No. 2 Common), is used primarily by domestic dimension, furniture, cabinet, flooring, and other manufacturers. Material in the below 2C grade area is used as in railroad ties and mine timbers, or as pallets and flooring.

By state, we gathered sawtimber quality information and combined it to generate the eastern data in Table 6. The log-grade information was then transformed into potential output of sawn lumber by lumber grade. The lumber-grade results assumed the production of lumber from the distribution of logs found in the woods. In actual practice, many of the small diameter, low-grade logs and many other larger, low-grade logs are never removed from the forests. Consequently, the quality of logs removed from the woods is better than what is found in the woods. This would improve the actual distribution of sawn lumber produced over the numbers in Table 6.

The eastern results show that 15 percent of the select species are in log grade 1, 24 percent in log grade 2, and the remaining 61 percent in log grades 3 and 4. Potential output of sawn lumber by lumber grade for the Eastern United States is 12 percent in top grade (FAS&Sel), 50 percent in the 1C/2C grades, and 38 percent in the below 2C grades. Results for hard maple and yellow birch are slightly lower and those for combined ash, walnut, and cherry (based only on cherry yields) are slightly higher than the overall percentages.

The resource answers

The Eastern United States has substantial quantities of select species, and these resources are increasing and not decreasing. By the year 2000, U.S. inventories of the select species sawtimber could increase by 42 percent to 331 billion board

feet (International 1/4-inch rule). Thus, it would appear that the United States has the resources necessary to continue to supply domestic markets; to continue as a major player in the world hardwood market for log, lumber, and veneer products; and to increase supplies of secondary hardwood products on both domestic and export markets.

Table 6.--Estimated quality of eastern hardwood select species sawtimber, by log grade and potential output of sawn lumber by lumber grade

Species	Log grade			Lumber grade ^a			
	1	2	3&4	FAS&Sel	1C	2C	Below 2C
-----Percent-----							
All select hardwoods	15	24	61	12	23	27	38
Select oaks	15	24	61	12	24	27	37
Hard maple	12	23	65	11	21	26	42
Ash, walnut, cherry ^b	15	25	60	19	25	29	27
Yellow birch	11	26	63	12	21	24	43

^a Grade 4 not included, all logs grades 3 and 4 were considered as grade 3 in calculations.

^b Lumber yields based on cherry yield tables from northern statistics.

When considering the quality of the standing sawtimber and the potential output by lumber grade, about 50 percent of the output is secondary-quality (1C/2C) material and 38 percent is below this quality level. The vitality of the markets for the secondary-quality material dictates the overall economic performance of a sawmill and, therefore, is important. Improvements in present and potential furniture, millwork, flooring, and dimension markets and development of new uses for this quality range of material, such as value-added export dimension, need to be constant goals.

THE FUTURE

The future of U.S. hardwood product exports will depend on a number of factors, including exchange rates between the dollar and foreign currencies, maintenance of competitive production and marketing costs by U.S. producers, and the relative availability of high-quality U.S. hardwood sawtimber. While U.S. hardwood manufacturers might have little control over exchange rates, they can take action to remain competitive and to improve overall resource utilization.

If trends in hardwood product exports continue, the increases shown in Figures 1-4 should be attainable. Our hardwood products are being relied upon more and more overseas. We are No. 2 in the world as a hardwood lumber exporter and No. 1 as an exporter of temperate hardwoods. Temperate hardwoods and not tropical hardwoods are native to and preferred in our best markets. American exporters

are working hard to service and maintain these markets. Further, USDA Foreign Agricultural Service (FAS) programs with the National Forest Products Association (NFPA) to support the Hardwood Export Trade Council (HETC) with promotional and market developmental efforts have paid and should continue to pay big dividends to U.S. hardwood exporters. If everything works and the increases shown in Figures 1-4 occur, the U.S. could reach record levels of 800+ million board feet in 1988.

On the cautious side, there could be some supply problems when our industry attempts to meet the projected potential record level export demands. Overseas demand has been centered on high-grade material and on only a few select species. Because high-grade material is in limited supply and domestic demand is strong, there may not be adequate supplies of certain species to serve all markets at existing prices. These problems might be alleviated if export demand could be broadened to include more species and more medium and lower grade material, which is in abundance in U.S. forests. The latter might be accomplished partially by shipping more "specialty" type products, such as rough dimension and strip stock, standard-size rough dimension, and semifinished or subassembled parts made from No. 1 and No. 2 Common lumber. Efforts to develop new, lower cost processes to manufacture "export" material directly from roundwood and/or lumber also might be beneficial in alleviating demand/supply imbalances. These efforts could increase potential supplies and help stabilize prices--both pluses for increasing exports.

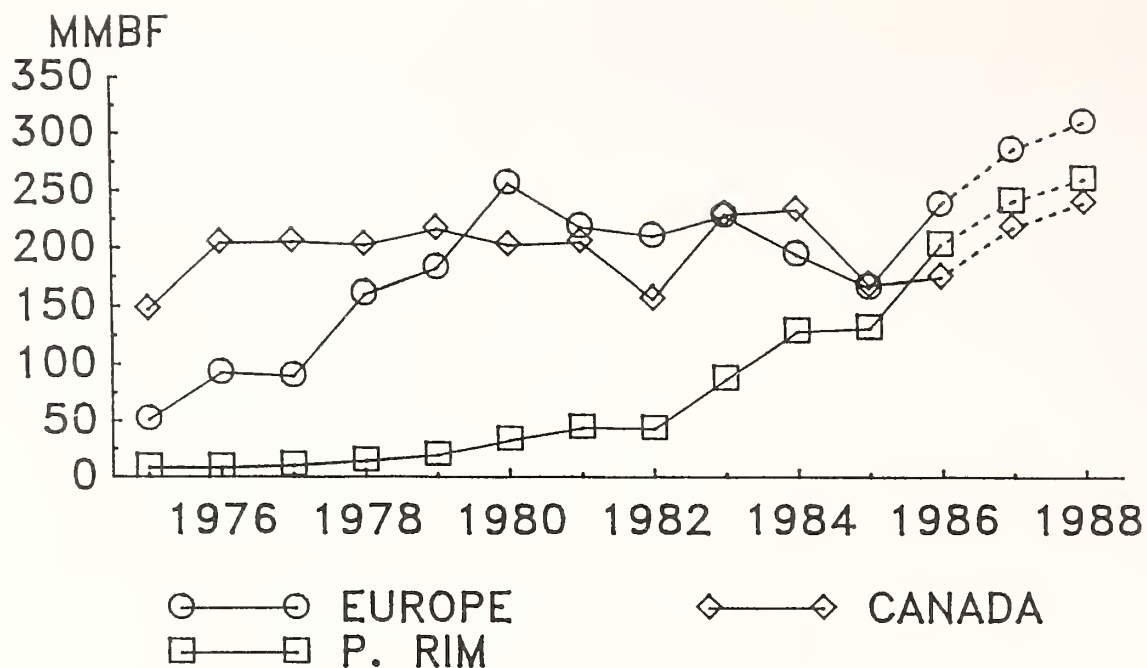


Figure 1. Hardwood (log, lumber, and veneer) export trends, 1975-1986, with projections for 1987 and 1988.

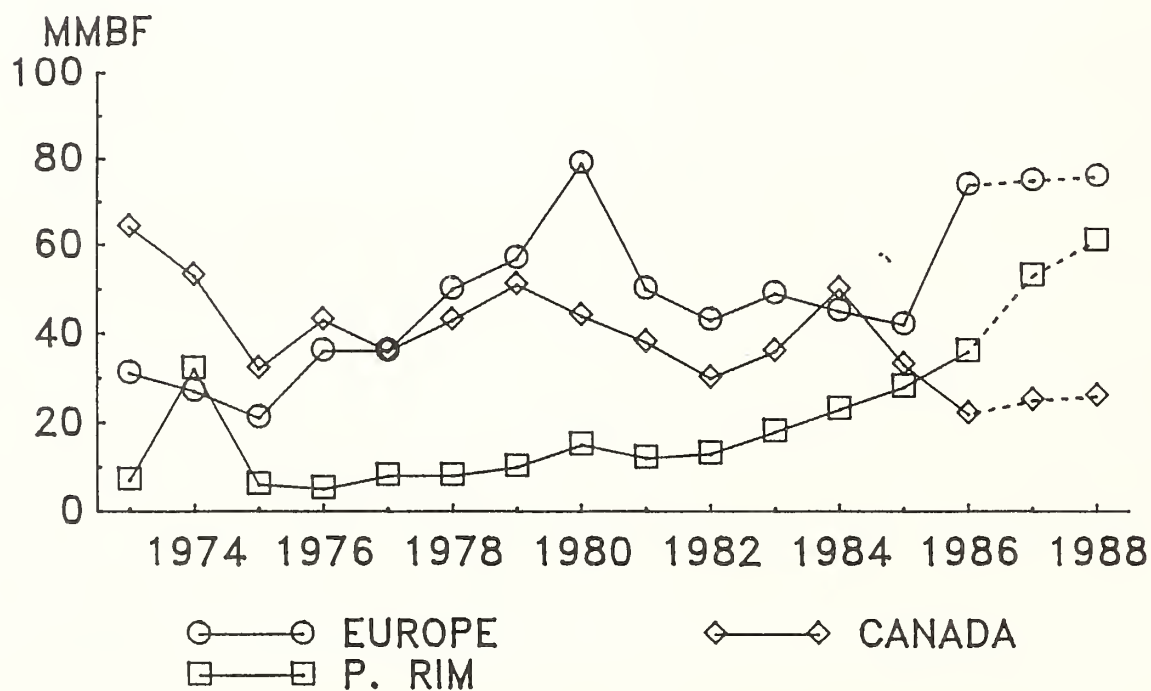


Figure 2. U.S. hardwood log exports, 1973-1986, with projections for 1987 and 1988.

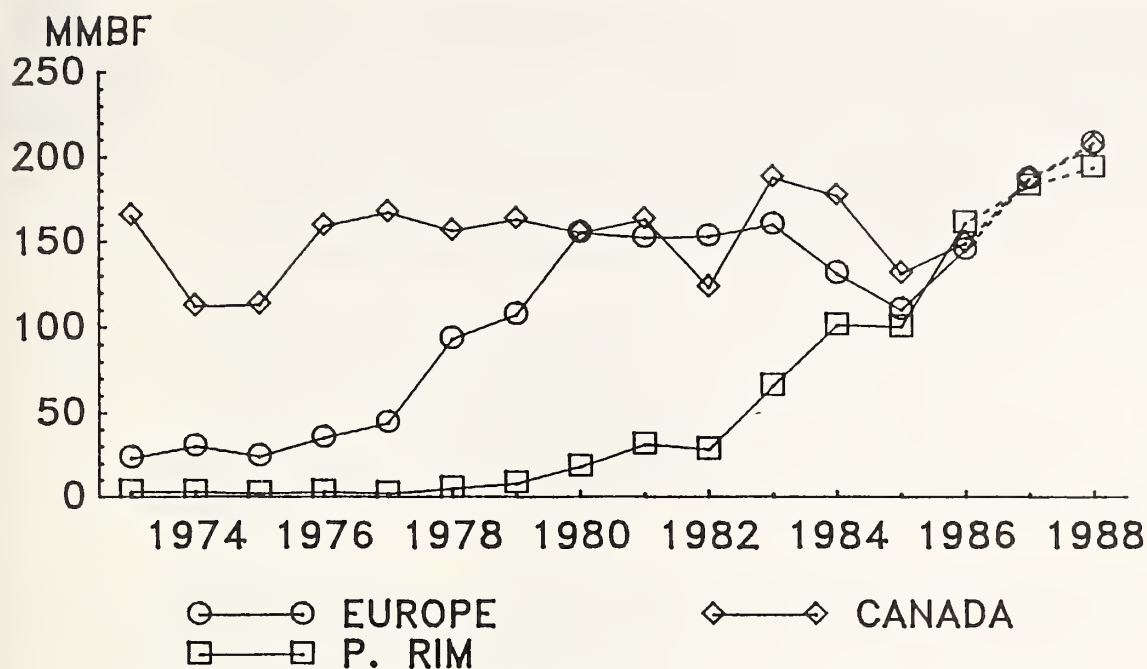


Figure 3. U.S. hardwood lumber exports, 1973–1986, with projections for 1987 and 1988.

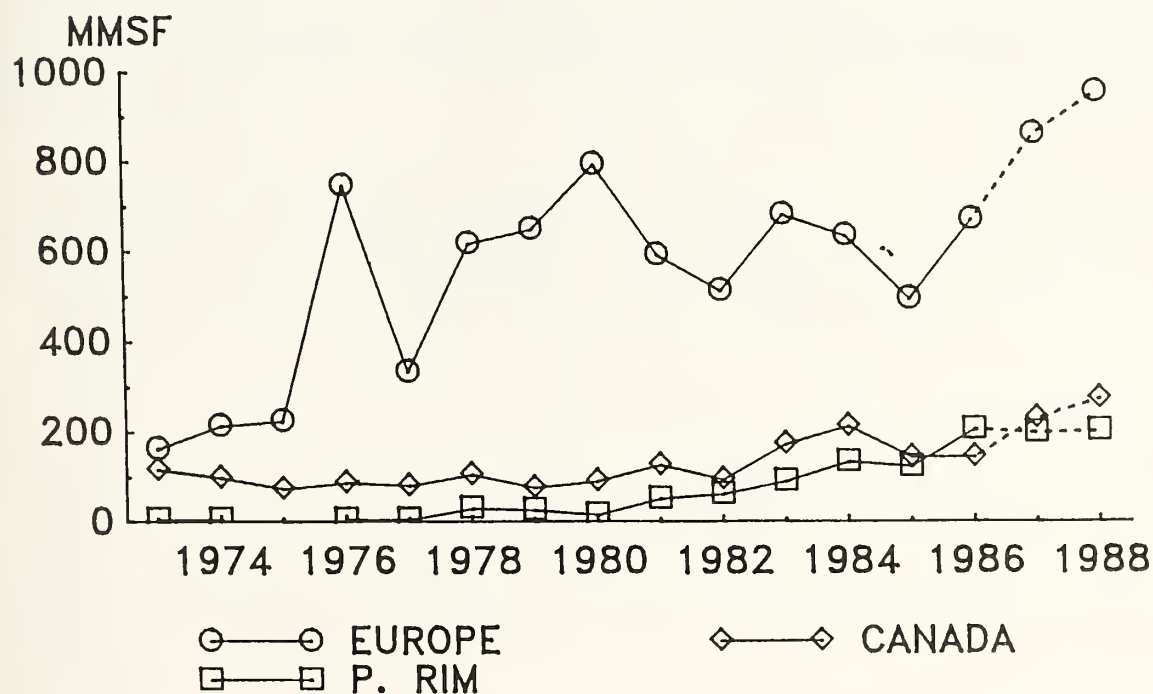


Figure 4. U.S. hardwood veneer exports, 1973–1986, with projections for 1987 and 1988.

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EXPORT POLICIES OF MAJOR COTTON COMPETITORS

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Like the United States, most foreign cotton producers have farm and export programs regulating cotton production and trade. These policies and their effect on cotton competitiveness have become more important with the recent interest in liberalizing barriers to international trade. But, discussion cannot be limited to cotton policies alone since other policies, such as regulations on exports in general and programs for agricultural and industrial development, also affect cotton production and trade.

To summarize policies affecting cotton, I've chosen 6 major cotton producers whose exports compete with those of the United States--China, the Soviet Union, Pakistan, Australia, India, and Egypt. These producers represent the range of policies of all cotton producers from the completely centrally-planned, through varying mixtures of government and private controls, to the almost entirely market determined. For each of the 6 countries chosen, this paper will describe the policies affecting cotton, dividing them between those likely to subsidize cotton and those potentially taxing cotton.

In general a policy involves a subsidy if it increases prices received by producers or decreases producers' input costs relative to what producers would receive or pay in absence of the policy. Conversely, a policy taxes if it depresses producer prices or raises input costs compared with no policy. Policies such as deficiency payments, reduced cost inputs, low interest rate loans, and import quotas and licensing, subsidize producers. Policies which tax producers include export taxes, export quotas, export licensing, and state control of prices to producers which result in lower prices than producers could otherwise receive.

Recently, ERS researchers have completed estimates for some cotton-producing countries of producer subsidy equivalents (PSEs)--measures which indicate the net transfer from other sectors, through government programs, to agricultural producers. For the centrally-planned economies, no PSE measurement of subsidies has been made. For the market economies covered here, subsidies as measured by PSEs appear to be small or negative. Where PSEs are negative, producers are taxed and foreign cotton competition could increase if government programs are removed.

Policies that Subsidize or Tax Foreign Cotton

For the two largest foreign cotton producers, China and the Soviet Union, actual estimation of PSEs is very difficult. Available data is limited, budgets generally are not published or are insufficiently detailed, and government intervention is so extensive that it is difficult to separate the subsidies and/or taxes resulting from a particular policy. For these 2 countries, however, policies can, to some extent, be divided between those that may subsidize and those that may tax cotton.

The Soviet Union is still the more strictly centrally-planned of the two. Its policies that may subsidize cotton include:

- o direct payments for capital construction and soil improvement,
- o deficiency payments to low profit areas,
- o state supplied and generally low cost inputs such as transportation, agrochemicals, and equipment repair service,
- o free irrigation water,
- o low or no interest loans and frequent loan write offs,
- o crop disaster insurance,
- o state supported agricultural research and agricultural education, and
- o bonuses 50-100% above the guaranteed price for production in excess of planned targets and improved quality cotton.

Soviet policies which could tax cotton include:

- o area targets set by the government,
- o procurement prices generally fixed below world prices,
- o government monopoly of purchasing,
- o government marketing priority for domestic use,
- o government monopoly of exports,

Since reforms began in China, the scope of market forces has increased, but central-planning is still prevalent. Examples of policies which may subsidize cotton in China include:

- o disaster relief,
- o ensuring adequate availability to agriculture of otherwise short fertilizer and electricity,
- o guaranteeing grain supplies at fixed low prices to cotton producers,
- o cotton price increases between 1978/79 and 1984/85 and in 1987/88, and
- o bonuses such as the reduced cost fertilizer for above target cotton production which has been restored for the 1987/88 season after a two year lapse.

China's policies which restrict trade and tax cotton are virtually identical to those of the Soviet Union. In 1987/88, China has restored another tax, by abolishing the free market sales of above target cotton production allowed in 1985/86 and 1986/87.

The 4 other cotton producers, Egypt, Pakistan, India, and Australia, have been chosen to illustrate the range of producer subsidies and taxing restrictions in more market-oriented economies. None of these countries offer direct producer payments; but, all have some input subsidization. Three have some government control of producer prices and exports; Australia does not.

Egypt, which is more market-oriented for other crops, uses a heavy government role in cotton production and trade. On the subsidy side, the government provides free irrigation water, production credit, and subsidized fertilizer and pesticides. And, while Egypt does not prohibit private cotton imports, its import requirements, particularly for vacuum fumigation which at present can only be preformed in the U.S., effectively limit import competition.

On the tax side, the Egyptian government sets procurement prices usually well below world prices for equivalent grades. Both purchases and exports are made exclusively by the public sector branches of the Egyptian Cotton Authority with priority for domestic use. And, its allotments of cotton acreage are mandatory and carry strict penalties for non-fulfillment.

On the subsidy side, Pakistan and India both fix fertilizer prices low and equal throughout the country regardless of whether the fertilizer is imported or domestically produced. Both also provide subsidized water and electricity and low interest rate loans for cotton producers.

In addition, Punjab and Sind, the major cotton producing States in Pakistan, provide subsidies for purchase of pesticide sprayers. Agricultural income is exempt from income taxes in Pakistan. And, imports are limited by licensing.

In India, additional subsidies are provided for use of certified seed. Cotton imports are usually prohibited by the Indian government, except when a shortage in domestic supplies seems likely to occur. Imports will be permitted in 1987/88, but only with a government license and under the stipulation that imported cotton is used solely to fill yarn export commitments. In past years when imports were allowed, there also was an import duty of 40 percent plus 5 percent ad valorem.

But, both India and Pakistan also implicitly tax cotton. In Pakistan, the government sets support prices below world prices. But farmers sell seedcotton through both private traders and the government's Cotton Export Corporation (CEC) in markets with fluctuating prices. The CEC purchases either at or above support prices primarily for export, but also to insure adequate low-cost supplies for domestic users. Until this year, only the CEC was allowed to export cotton. This year's new policy, which is to be applicable to the next 3 seasons, allows private traders to export too, subject to meeting a minimum export price and purchasing the lint from the CEC. It is not yet clear if the private sector will participate under these terms.

The Indian government also sets support prices relatively low compared with world prices for equivalent types; and, purchasing by gins and domestic mills occurs in a market with flexible prices. Private traders, State-run marketing boards, such as the Maharashtra Federation which is a monopoly marketer in that State, and the Cotton Corporation of India (CCI), the government marketing agency, all participate in the market place. CCI purchases cotton at or above support prices both to stabilize market prices and to guarantee the government's priority, low-cost cotton for domestic use. Only after domestic demand has been satisfied and the government determines that remaining stocks exceed normal domestic needs, is the excess allocated to export quotas. Export quotas are distributed among the many exporters--the CCI, state marketing boards, and some private companies--according the proportion of the surplus

held by each. This system tends to give the largest export share to the largest purchaser, the CCI. The government also sets minimum export prices to prevent export price competition from depressing export revenues. In addition, for exports of cotton under 31/32" there is a duty of Rs 1000/ton.

Australia has virtually no government-run cotton programs. However, it has a few subsidies these include:

- o some guaranteed loans,
- o a loan restructuring program,
- o agricultural research done with some government support, and
- o a discriminatory pricing system that slightly raises the price of cotton sold to domestic mills.

It has no restrictions on cotton imports.

In contrast to the others, Australia has no government intervention in cotton purchase and export; all prices are market determined and there is no support price. Four major companies compete to purchase, gin, market, and export cotton for their grower members. The Queensland State Cotton Marketing Board does monopolize purchase of all cotton produced in Queensland State, but otherwise is similar to the other cooperators, the Naomi Cotton Cooperative Ltd., Auscott Pty. Ltd., and Darling River Cotton.

Estimates of PSEs

Although PSEs have not been estimated for all cotton producers covered here, it is still useful to look briefly at the results of the ERS estimates for Pakistan, India, and Australia. Estimates were made for 1981/82-1984/85 and have been updated to include 1985/86 and, where possible, 1986/87 (table 1).

ERS found Australia subsidizes cotton because it has a positive net transfer to producers even though that net transfer is extremely small and declining. However, ERS methods of estimating PSEs did not include the effects of high import tariff protection on industry, which could potentially tax agricultural inputs in Australia.

ERS estimates of PSEs for Pakistan and India indicate neither subsidizes cotton because PSEs for both were negative in most years studied. That is, taxes on producers resulting from export controls substantially exceeded net transfers to producers from subsidized inputs. However, in one year studied for both Pakistan and India, 1985/86, the PSE was positive, suggesting net subsidies occurred when world export prices fell below domestic prices. Subsidies in Pakistan and India, however, are thought to be the exception rather than the rule in the normal range of world prices.

These PSE results suggest that if export controls on cotton were removed, implicit prices received by foreign producers should rise, adding incentives to increase foreign cotton production--at least in Pakistan and India. In this case, the United States would face either greater cotton export competition or increased textile import growth, depending on whether foreign producers exported the additional cotton produced or expanded domestic textile production and trade.

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Table 1.--ERS Estimates of Producer Subsidy Equivalents for Cotton

Marketing years 1/	Pakistan			India						Australia		
				Medium			Long					
	83	84	85	83	84	85	83	84	85	83	84	85
Percent of producer value												
<u>Taxes</u>												
Support price & state control of trade	-17	-35	0	16	-18	-18	-49	-23	1	--	--	--
Export duties	--	--	--	-7	-3	0	--	--	--	--	--	--
<u>Subsidies</u>												
Input assistance	8	9	8	6	7	9	3	4	3	3.9	3.6	2.8
<u>Net Transfers</u>	-9	-26	8	-18	-14	-10	-45	-19	4	3.9	3.6	2.8

-- Indicates none.

1/ Years shown are the first of a split marketing year beginning August 1 and ending July 31 or as close to that basis as was possible with each country's data.

Source: ERS, USDA, Preliminary Estimates of Producers & Consumer Subsidy Equivalents, Staff Report, Jan. 1988.

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1988 OUTLOOK FOR TOBACCO

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The second half of the 1980's decade is a transition period for the tobacco industry. Production is being held down while surplus stocks of tobacco are being used up. The industry faces continued declines in U.S. consumption of all tobacco products, heightened antismoking activity a greater number of more stringent restrictions on tobacco use, and higher taxes. Still, buoyed by legislation enacted in April 1986 that significantly changed the quota setting procedure, price support levels, and no-net-cost assessments for burley and flue-cured tobacco the outlook for tobacco growers the next few years is considerably more positive than three years ago. Supply and demand are coming into better balance, cigarette production is rising because of hiked exports, increased domestic leaf use and exports are in prospect, and increases in leaf production are anticipated for several years.

The U.S. tobacco outlook for 1987/88 is highlighted by ample, but declining supplies of leaf and reduced demand for tobacco products. Compared with a year earlier, U.S. prices are higher as the quality of this years' crop is relatively good despite drought stress in some areas. Both domestic use and exports may rise a little. U.S. production in 1987 is up about 6 percent from last years' low level. However, even with larger production lower carryin stocks reduced supplies about 6 percent to 4.6 billion pounds, with decreases in nearly every type.

The size of the 1988 crop will depend in part on USDA's decision on quotas, which must be made by December 15 for flue-cured, February 1 for burley and March 1 for other kinds. The basic quotas for flue-cured and burley may be raised, but depend on whether manufacturers' buying intentions increase. Effective quotas will likely be higher for flue-cured and lower for burley in 1988. Production of all tobacco may be up next year if yields are average. Prices in 1988 may rise because supplies of some grades of tobacco may be in short supply. Consequently, the value of the crop may increase in 1988.

U.S. Cigarette Sales Declining, Exports Up

Cigarettes are the dominant product of the tobacco industry in the United States and most other countries. Because of a 58 percent leap in cigarette exports the first 9 months of this year, output may rise to 670 billion pieces this year, about 27 billion above 1986 and the highest since 1982. However, U.S. cigarette consumption may fall about 2 percent this year, about the same decline as a year earlier. Consumption per person in the United States 18 years and older may drop by 78 cigarettes (about 4 packs of 20) from 3,274 to 3,196. This would

be the lowest since 1944. During the 1970's, cigarette smokers shifted toward low-tar brands. However, there has been a reversal since 1981. Since 1981 the proportion has fallen, but it may have steadied at a little over one-half the average during the last five years.

Despite an increase in the smoking age population, total consumption of cigarettes is likely to decline again in 1988 and per capita consumption is also expected to decline. Price hikes because of increased manufacturers' costs (including profits) and tax increases are primary among reasons for the expected decline in both total and per capita consumption. The Federal excise tax has remained at 16 cents a pack of 20 since 1983, but 13 states and the District of Columbia raised excise taxes an average of 6 cents a pack in 1987. State taxes now vary from 2 cents a pack in North Carolina to 38 cents in Minnesota. Thirteen states now levy taxes of 25 cents a pack or more. The combined city and state tax is 43 cents in Chicago, Illinois. Further state tax increases are expected to occur in 1988.

Wholesale cigarette prices rose in December 1986 and again in June this year. For the last 5 years manufacturers' have raised wholesale prices 3 to 4 percent at about 6-month intervals. Retail prices have risen 6 to 8 percent a year and at a faster rate than overall consumer prices. As prices have risen, sales of generic and value-priced cigarettes (priced 15 to 35 percent lower than standard brands) have risen and now account for about a tenth of U.S. cigarette sales.

Antismoking activity, including legislation, continues to affect the industry. More than four-fifths of the states and the District of Columbia now have laws that either prohibit smoking in certain places or segregate smokers and nonsmokers. Twelve states regulate smoking in the workplace of both government and private employers and an additional six states regulate smoking in government workplaces. The General Services Administration (GSA) has implemented stringent smoking restrictions in buildings it owns or leases. Also, a large number of towns and cities have smoking restrictions. The U.S. Department of Health and Human Services and voluntary health agencies have stepped up efforts to discourage smoking. The cumulative effect of publicity and ordinances on smoking is uncertain, although it almost surely accounts for some of the downward trend in per capita consumption.

In July, the U.S. House approved a ban on smoking on commercial airline flights of 2 hours or less. Then, in late October, the Senate approved a ban on commercial airline flights of 1-1/2 hours or less for two years. The differences must be resolved by a Senate-House conference committee before it is ready for final action.

Several bills to ban advertising and promotion of tobacco products were introduced and debated in Congress this year. Furthermore, a number of bills were introduced to hike the Federal excise tax. The push to adopt measures that would dampen demand for cigarettes is expected to continue in 1988, and could even strengthen as measures are considered to generate revenues to reduce the Federal deficit.

Changes In Tobacco Per Cigarette Affect Total Use

Tobacco use in cigarettes remained relatively constant during the 1970's and in 1980 and 1981, despite the gain in cigarette output. For many years, manufacturers could economize in leaf use as they shifted to filtertip brands and used the whole leaf. Later, manufacturers began using various leaf expansion processes and in recent years have used more imported tobacco to stabilize costs. But, with production declines from 1981 to 1986, total tobacco use has decreased.

U.S. cigarette manufacturers used an estimated 1,154 million pounds of tobacco (unstemmed processing weight) in cigarettes in 1986. This was a little below 1985 even though leaf use per cigarette rose. This calendar year, with cigarette output rising perhaps about 4 percent, manufacturers may be increasing their total tobacco use.

Manufacturers used an estimated 1.79 pounds of tobacco (unstemmed processing weight) per 1,000 cigarettes produced in 1986, about 3 percent above a year earlier but considerably below the levels of 15 to 20 years ago. Domestic flue-cured accounts for about 33 percent, burley 29 percent, and Maryland 2 percent. Foreign grown was 36 percent; fifteen years earlier it was 15 percent.

Consumption of Other Tobacco Products Also Down

Large cigar consumption will likely decline about 7 percent to 2.8 billion in 1987. Production of little cigars--less than 3 pounds per 1,000--is rising after a sharp decline last year. Large cigar consumption in 1988 is expected to continue the decline that started in 1970.

Smoking tobacco consumption may have fallen to 21 million pounds in 1987, 14 percent below the previous year. Consumption of chewing tobacco has likely fallen about 4 percent. Both smoking and chewing consumption are likely to fall again in 1988.

Snuff consumption may have fallen 2 or 3 percent in 1987. Both moist and dry snuff consumption are down. Snuff consumption is likely to fall again in 1988.

Consumption of smokeless tobacco products (snuff and chewing) will likely be hurt the last third of the 1980's because of legislation enacted in 1986. The Consolidated Omnibus Budget Act of 1985 (Public Law 99-272) placed a 24-cent-a-pound Federal excise tax on snuff and an 8-cent-a-pound tax on chewing tobacco in July 1986.

In February 1986, the Comprehensive Smokeless Tobacco Health and Education Act of 1986 (P.L. 99-252) was enacted. The act requires three rotating warning labels on smokeless tobacco containers and in print advertisements, except on billboards, for the products. In addition, television and radio advertising of smokeless products has been banned.

U.S. Tobacco Crop Larger

Tobacco production is up this year because of larger acreage and higher yields. Even with slightly lower support prices, flue-cured auction prices averaged 6 cents a pound above last year. Flue-cured cash receipts from the 1987 crop were up about 7 percent. In addition to higher prices, the no-net-cost assessment charged producers was reduced from 1986's 2 1/2 cents to 2 cents this year, which boosted returns slightly.

As of November 1, the tobacco crop was forecast at 1.23 billion pounds, up 6 percent from a year earlier. Total supplies for the 1987/88 marketing year are down about 6 percent as reduced carryin more than offsets increased production.

Price support levels for flue-cured tobacco were slightly lower in 1987, burley supports remained the same, and supports for other types declined slightly. Burley auctions opened November 23 with prices averaging about 1 cent a pound above a year earlier the first week of sales. Cash receipts from the 1987 burley crop may increase 10 to 15 percent.

At the beginning of the 1987/88 marketing year, grower cooperatives held 1.02 billion pounds (farm sales weight), down about 228 million pounds or 18 percent from a year earlier. Unsold loan stocks of about 740 million pounds on October 1 were down about 32 percent from a year earlier. The reduction came about because of special ("buyout") sales authorized by 1986 tobacco legislation and lower takings of burley and flue-cured by cooperatives last season. Under buyout provisions, manufacturers agreed to buy approximately 590 million pounds (farm sales-weight) of 1976-84 flue-cured tobacco over an eight year period and about 308 million pounds of burley (farm sales-weight) over a five year period. The buyout is well ahead of schedule with about three-fifths of both the flue-cured and burley purchased within the first 2 years of the selling period.

The flue-cured auction season ended on November 12 with prices averaging \$1.59 a pound, about 6 cents higher than last year. About 25 million pounds were placed under loan, 30 million fewer than a year earlier and the lowest since 1974.

Government price support is mandatory for tobacco produced under marketing quotas. Support levels for 1988 have not been set although preliminary figures indicate the flue-cured support will increase about 1 cent a pound.

Beginning in 1987, flue-cured and burley price supports are the level for the preceding year adjusted by changes in the 5-year moving average of prices (two-thirds weight) and changes in the cost of production index (one-third weight). Costs include general variable expenditures, but exclude costs of land, quota, risk, overhead, management, marketing contributions, and other costs not directly related to the production of tobacco.

Marketings from the 1987 flue-cured crop and unsold 1986 production were about 3 percent above last year's marketings. But, with a smaller carryover, flue-cured supplies for 1987/88 are about 7 percent below last season. The flue-cured effective quota was increased by about 6 percent this year. Because of excess

production in 1986, 8 to 10 million pounds of 1986 crop tobacco were sold in 1987. Some growers likely have tobacco in excess of their 103 percent (amount of effective quota that can be marketed without penalty) this year.

Under the acreage-poundage program, USDA is required to announce the national marketing quota for the 1988 crop of flue-cured by December 15, 1987. The 1987 basic quota was 707 million pounds, or about 180 million pounds below prospective use. Supplies have declined each of the last 6 years, and represent about 2.7 years use. Because this season's marketings are below 1987's effective quota, the effective quota for 1988 will be higher than the basic quota.

Supplies of burley have declined since 1984, and now represent about 3 years' use. The 1987/88 supply of burley tobacco is about 4 percent below last season. Carryover stocks on October 1 were 10 percent below a year ago because of the smaller 1986 crop. This year's crop increased 13 percent from last year's. Acreage is up 7 percent and yields are up 6 percent. USDA regulations allow the crop to be sold in bales, sheets, or hand-tied. Most of the crop will likely be sold in bales.

During the year ending September 30, 1987, burley disappearance totaled 567 million pounds, 1-1/2 percent below the previous year and 10 percent below 1979's record. Domestic use fell, but exports were up. Exports were up largely because of lower prices, including discounted sales of the 1983 crop. Total use may increase in 1987/88 with domestic use increasing and exports remaining at this year's record high level. Domestic use may rise because of increased cigarette production and substitution of domestic for imported burley. Lower burley auction prices, sizable dealer holdings of the 1983 burley crop, the weaker dollar, and the increasing demand for blended cigarettes worldwide may keep burley exports up.

For both flue-cured and burley tobacco, legislation requires that the national quota be based on:

- 1) intended purchases by cigarette manufacturers,
- 2) average annual exports for the 3 preceding years, and
- 3) the amount of tobacco needed to attain the specified reserve stock level (15 percent of the basic quota or 50 million pounds of burley or 100 million pounds of flue-cured). USDA's discretion for setting the quota is limited to not more than 103 percent or less than 97 percent of the amount determined by manufacturers' needs and exports, and the reserve stock level. If a quota reduction is required, it is limited to a maximum 6 percent reduction.

The basic flue-cured and burley quotas may be increased in 1988. The effective flue-cured quota is likely to be higher, but the effective burley quota may be lower. However, if and how much the quotas are raised depends heavily on the purchase intentions of manufacturers. Purchase intentions are the largest item in the formula for setting both flue-cured and burley quotas and they are especially large for burley. Consequently, purchase intentions are extremely important in quota determination and they depend on the industry's assessment of future stock requirements.

Among other types of tobacco, supplies of fire-cured, Maryland, dark air-cured, and cigar tobacco are all down.

Producer referendums will be held in early 1988 to determine if growers of Virginia fire-cured (type 21) and Kentucky-Tennessee fire-cured (types 22-23), and Kentucky-Tennessee dark air-cured (types 35-36) desire acreage allotments for their next three crops.

A Look Ahead

Tobacco production in the United States may rise again in 1988 and there may be an increase in production in 1989. Furthermore, hikes in production may continue for a few years into the early 1990's. The increases in production are expected because surplus stocks are being used up and current production is below disappearance. Additionally, domestic leaf use is expected to rise because of substitution of U.S. grown for imported tobacco, and exports are expected to rise because of lower prices of U.S. tobacco and increased demand for burley due to greater production of blended cigarettes throughout the world. Also, cigarette exports are rising because of strong demand for American cigarettes and the opening of markets, particularly the Far East, for U.S. cigarettes.

Hikes in production will be from the relatively low 1986 and 1987 levels. Production levels approaching the 1.8 to 2.2 billion pounds of the 1970's and early 1980's are not in the picture. Furthermore, production hikes are likely to give way to declines before the mid-1990's because falling U.S. cigarette consumption will likely offset the gains cited above. State excise taxes on cigarettes will continue to increase and the Federal excise tax will almost surely be raised, perhaps substantially. Smoking restrictions and other antismoking activity will no doubt continue at the current or heightened levels. Cigarette consumption may fall an average of 2 to 3 percent a year over the next several years.

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WORLD TOBACCO OUTLOOK

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Summary

The world tobacco economy looks favorable for 1988. Cigarette output is expected to increase driven by expanding consumption in the developing world. Leaf trade, despite recent year's losses, should improve due to competitive pricing by some of the major industrialized producers.

World Cigarette Output - a key indicator of leaf demand, climbed two and a half percent in 1986. This was the third consecutive year that world cigarette production has risen, and is principally due to China's double digit growth rates.

Output this year and 1988 are again expected to rise, with losses in the industrialized world being offset by growth in consumption in the third world.

Excluding China, cigarette production is stagnant (+0.1%) reflecting declines in both the EC and North America. Of the major cigarette producers, the U.S., U.K., France, Japan, and Canada have reduced their output due to increased taxation, health concerns, and anti-smoking activities.

In the developing world, South America (+8%), Africa (+4%), and Asia have boosted cigarette output due to growth in disposable income, increased urbanization, and changes in tastes from hand-rolled to factory-produced cigarettes.

U.S. production this year is expected to be stagnant. Expanding exports to Asian countries, should just offset consumption declines in the domestic market. The U.S. currently exports about 10 percent of its 650 billion piece output.

Recent efforts to relax cigarette trade barriers in Asia, is a bright spot for the U.S. tobacco industry. Japan is a case example. Until recently, the U.S. had only a 2-3 percent market share. Due to Section 301 legislation, however, the Japanese agreed in April to drop their market barriers. The results have been more rapid than expected. Cigarette exports to Japan for the first eight months of this year have jumped 300 percent to 21 billion pieces. Similar tactics have been very successful in Taiwan, and are in progress in South Korea.

World leaf trade is expected to be down for the third consecutive year, reflecting weak demand in the industrialized world. Exports in 1987 are expected to be 1.3 million tons, about 3 percent lower than the previous year. While the importance of developing countries in world tobacco trade continues to grow, a rebound in exports by the United States this year should reaffirm its strong lead position.

In North America, lower U.S. auction prices and a weaker dollar have been successful in boosting U.S. leaf exports. True, Mexico's drought has hurt its exports this year, but the impetus behind the U.S. and Canadian exports should lead to a six percent overall expansion of North American shipments. North America is expected to account for one-fourth of world exports and one-sixth of imports this year. The outlook for 1988 is similarly optimistic.

Europe, accounting for over one-half of the world's imports, and only one-fifth of its exports, remains a tobacco deficit area. Several European countries are totally dependent on imports to meet their leaf requirements.

The leading exporters this year are Greece, Italy, Bulgaria, and West Germany. A good deal of these shipments are of oriental and semi-oriental tobacco types. Concern over the possibility of radioactive contamination from the Chernobyl incident last year, has had a significant negative impact on recent Greek exports.

In Africa, this year's exports are expected to make a healthy recovery (+11% to 187 million tons). Both Zimbabwe and Malawi exports are up significantly, while imports in Tunisia, South Africa, and Morocco have declined. Africa is currently in a strong trade surplus position with exports out-pacing imports by almost two to one. The continent now supplies about one-seventh of the world's exports.

Asia's trade surplus has eroded due to a continued three year decline in exports. Turkey, having lost nearly 50 percent of its 1985 export volume, is particularly hard hit. U.S. cigarette producers are currently importing less oriental leaf. Since Turkey's poor performance is likely to continue into 1988, Asia's exports are expected to remain stagnant. Asia currently accounts for about one fifth of the world's exports and one-eighth of its imports.

World tobacco production will be up significantly this year reflecting increased harvests by major tobacco producers. Among the main cigarette tobaccos, flue-cured output is expected to increase as larger crops in China, Zimbabwe, Brazil, and India, offset reductions in the U.S., Canada, and Japan. The world flue-cured crop this year is expected to be 3.4 million tons.

The burley crop is also up, with gains in China, Argentina, Italy, and the Philippines offsetting reductions in the U.S., Mexico, and Greece. While world burley output is now almost double the level produced 25 years ago, the U.S. continues to lose ground to other producers. We now account for only about a third of world production.

Oriental tobacco output is expected to be about the same as last year. Declines in Greece should evenly offset increases in Turkey. Oriental tobacco production currently now accounts for about one seventh of the total leaf output in the world.

World tobacco prices last year were mixed with about an even number of increases and decreases. Export prices were generally lower in dollar terms because of the weak currencies of many exporting countries.

Flue-cured grower prices were lower last year in the U.S., Mexico, and Argentina; whereas, increases were noted in Canada, Brazil, and Malawi. The outlook for this year is for prices to rise in general. Reports from 1987 flue-cured markets indicate higher prices in the U.S. and Malawi. Zimbabwe, on the other hand, had a considerable quantities of drought-stress leaf. Auction prices for flue-cured were 30 percent below last year.

As far as the United States, we continue to play a leading role in the world tobacco economy. Ranked second in production and consumption, we trail only the People's Republic of China. In leaf exports and imports, we are the world leader.

Over the past few years, our favorable margin as a net exporting nation has narrowed due to uncompetitively priced tobacco. However, the falling dollar, along with adjustments to support prices and quota, should have a positive, long term effect on our trade position. Leaf imports this year are expected to be down slightly, while exports are predicted to rise a healthy 11 percent to 240,000 tons. Export value should reach \$1.3 billion. The outlook for 1988, is likewise optimistic.

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THE CONSUMER EXPENDITURE SURVEY: METHODOLOGICAL ISSUES FOR TODAY AND TOMORROW

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The Consumer Expenditure (CE) Survey data are a collection of detailed consumer expenditures, income, and consumer unit characteristics. The data set is a rich source of information available to researchers to conduct economic analysis. Historically, the survey was largely important because of its role in the periodic revision of the Consumer Price Index. However, with increasing demand for more timely data concerning the spending habits of different types of households, the CE Survey has gained importance, in its own right, as a source of information.

The purpose of my presentation today is to review methodological issues being addressed within the Bureau of Labor Statistics (BLS) which may affect how "we" use and interpret data from the CE Survey "today" and "tomorrow". I will first briefly describe the CE Surveys of "yesterday" and "today" and will present some recent findings. Then I will review past and current research efforts, within the BLS, which have been or are being undertaken to analyze and improve the CE Survey data.

The Bureau of Labor Statistics has been conducting expenditure surveys since the late nineteenth century. The first survey, conducted in 1888-91, provided U.S. government policymakers with cost-of-living data for American wage earners. This survey emphasized the worker's role as producer rather than as consumer. Information from this survey was used for tariff negotiations between the United States and European countries.

In response to rapid price changes occurring at the turn of the century and during the first World War, expenditure surveys were conducted again in 1901 and 1917-19. These surveys provided information on the effects of rising prices on the living conditions of urban wage earners and clerical workers.

The use of consumer surveys extended from the study of the welfare of selected groups to more general economic analysis during the economic depression of the 1930's. The BLS conducted its own investigation and cooperated with other Federal agencies to collect data on consumer purchases during the 1934-36 period. These data permitted more extensive analysis of the income and expenditure behavior of American families, revision of the cost-of-living index (now known as the Consumer Price Index), and the selection of a new list of items to be priced in the index.

*This paper does not represent an official position of the U.S. Department of Labor, Bureau of Labor Statistics.

The survey methodology used to collect expenditure and household characteristics data became increasingly more sophisticated beginning in the early 1940's. For the first time, in 1941-42, the entire sample population to be surveyed was chosen using scientific sampling methods. The 1941-42 expenditure survey was a cooperative effort of the BLS and the U.S. Department of Agriculture. This was the first nationwide survey from which data could be used to estimate national consumption expenditures and savings classified by income class.

Approximately ten years later, in 1950, an expenditure survey of the civilian noninstitutional population living in urban areas was conducted. The 1950 survey provided data for the CPI and for analyses of consumption patterns.

The 1960-61 Survey of Consumer Expenditures followed an extensive testing of the latest collection and processing methodology and thus was the most ambitious survey to date. As in the past, a major justification for the survey was to support a revision of the CPI. However, the growing interest of market researchers, government officials, and other private users interested in current detailed consumer expenditure and income information had an effect on the scope and coverage of the survey. The sample included all urban and rural families and single consumers. Interviewers used a seven-day recall questionnaire to obtain detailed food expenditure data; all other data were collected during interviews in which respondents were asked to recall the previous year's expenditures.

The next major survey effort was conducted in 1972-73. The survey provided continuity with the content of the Bureau's previous expenditure surveys; however, it departed in its collection techniques. Data were collected using two separate components: (1) a Quarterly Interview Panel Survey, and (2) a Diary. Also, unlike previous surveys, the Bureau of the Census, under contract with BLS, conducted all sample selection and field work. A third major change was the switch from an annual recall to a quarterly recall (Interview) and a daily recall (Diary) of expenditures. The new format and procedures were adopted based on extensive collection methodology studies.

It had been apparent for a long time that there was a need for more timely data than could be supplied for surveys conducted every 10-12 years. The rapidly changing economic conditions of the 1970's intensified this requirement. The new continuing survey, begun in 1980, extended the BLS tradition of providing data describing the consumption behavior of American families. Because of the ongoing nature of the survey, data are now available annually and will possibly be available more frequently in the future.

As with the previous survey, the collection of data for the continuing CE Survey is conducted by the Bureau of the Census. The data are collected from a national probability sample of "households" designed to represent the total civilian noninstitutional population and a portion of the institutional population. The objectives of the survey remain the same, "to provide the basis for revising the weights and associated pricing samples for the CPI and to meet the need for timely and detailed information on consumption patterns of different kinds of families."

Like the previous survey, the ongoing survey is composed of two components, the Interview and the Diary, each with its own questionnaire and sample. The unit from which data are collected is the consumer unit (CU). A consumer unit is defined as: (1) all members of a particular housing unit who are related by blood, marriage, adoption, or some other legal arrangement, such as foster children; and (2) a person living alone or sharing a household with others, or living as a roomer in a private home, lodging house, or in permanent living quarters in a hotel or motel, but who is financially independent. In the ongoing survey, students living in university-sponsored housing are included in the sample as separate CUs. This is in contrast to the 1972-73 survey; for that survey these students were considered as a part of their parents' CUs.

Approximately 5,000 CUs are interviewed each quarter using the Interview. Each CU is interviewed once per quarter for five consecutive quarters. After the fifth interview, the sample unit is dropped from the survey and replaced by a new CU, thus the sample has a rotating design feature. For the survey as a whole, 20 percent of the sample is dropped and a new group added each quarter. The rotation of Interview Survey families into and out of the sample is a feature of the survey which results from its being continuous. Data from the Interview are used by the Bureau to produce quarterly estimates of expenditures. The Interview is designed to collect data on relatively large or major expenditure items and for expenditures which occur at fairly regular intervals (e.g., housing, rent, utility bills, clothing). Information is also collected on the sociodemographic characteristics of CUs, their income, assets, and liabilities. The Interview collects detailed data on an estimated 60 to 70 percent of total expenditures ; an additional 20 to 25 percent are accounted for using global questions for food and other selected items. The survey takes an average of 90 to 120 minutes to complete. The response rate of eligible housing unit for 1986 was 86 percent.

Another sample of approximately 5,000 CUs are surveyed for the Diary annually. For this survey, respondents are requested to record a detailed description of all expenses for two consecutive one-week periods. The diary is divided by day of purchase and by broad classification of goods and services. The categories include food and beverages both at home and in eating places, housekeeping supplies and services, nonprescription drugs, and personal care products and services. The Diary Survey is not limited to these types of expenditures, but includes all expenses which the consumer unit incurs during the survey week. Expenses incurred by family members while away from home overnight are excluded. Again, data are collected on CU characteristics and income. The Diary takes approximately 90 to 105 minutes each week to complete. It has been estimated that it takes the interviewer an average of 20 minutes to collect the demographic data and to instruct the respondent on how to keep the Diary. The response rate of eligible housing units for 1986 was 90 percent.

The sociodemographic information collected in the Interview and Diary is used by the BLS to classify CUs for the publication of statistical tables and for economic analysis. Data on CU characteristics will be used to integrate expenditure data from the Interview and the Diary to provide a "full profile" of consumer expenditures by demographic characteristics. Intergrated data are expected to be released in the Fall of 1988.

Recent data released by the BLS indicate that in 1985, aproximately 91.5 million consumer units nationwide were represented by the CE Survey samples. The average CU in 1985, based on Interview data, was composed of 2.6 persons, 0.7 children, 1.4 earners, and had 1.9 vehicles. The reference person was 46.8 years of age. Sixty-two percent of the CUs were homeowners and the average income for the year was \$25,127.

As noted earlier, data can be produced by various sociodemographic characteritics. Results by the characteristics of urban and rural reveal that rural CUs have less income on average than do urban CUs, the number of members in the CU is slightly more, the reference person is approximately two years older, they own more vehicles, and they are more likely to be homeowners. Overall, rural CUs have lower annual mean expenditures than do urban CUs; this is expected since their incomes are lower. However, on average, rural CUs spend more for transportation and health care. Rural CUs would be expected to spend more on transportation since they own more vehicles. Health care expenditures are higher because rural consumer units spend more on commercial insurance and medical services and supplies. Rural CUs are probably less likely to be participating in health care plans with part of their premiums paid by another, such as an employer. Also, rural CUs may use medical care services and supplies more frequently due to illnesses associated with increasing age. Data such as these are available to the public by the BLS.

CE Survey data are available through various sources. Those produced by the BLS include news releases and bulletins, public use computer tapes, floppy disks, detailed computer printouts, Monthly Labor Review articles, working papers, and conference papers.

Uses of the CE Survey data are extensive. These include analyses of consumer behavior, adjustment of weights and item selection for the CPI market basket, policy impact evaluations, marketing research, input into the National Account estimates, and forecasting. Government and private agencies use the data to study the welfare of particular segments of the population, such as the elderly, low-income families, urban and rural families, and those receiving food stamps. The Family Economics Research Group, within the U.S. Department of Agriculture, uses the data to construct their cost-of-raising-a-child estimates. The Internal Revenue Service uses the data to revise the average State sales and tax tables which taxpayers may use in filing Federal income tax returns. Econometricians find the data useful in constructing economic models.

BLS research using the CE Survey data can be divided into two broad categories: economic analysis and survey research methodology. Although the majority of my remaining comments will focus on the ongoing methodological research--to help prepare us for "tomorrow"--, I would like to briefly review with you the economic studies being undertaken at the Bureau. This is done to provide you with insight concerning what has been done and what can possibly be done in the future with the data.

Economic studies focus on enhancing methods of using the CE data (1) to construct index numbers to evaluate economic performance, and (2) to estimate the parameters of econometric models that may be useful in policy analysis. Within the area of index number research, studies are conducted on chain-weighted price indexes, price indexes for demographic subgroups, and interarea price indexes. The use of a chain-weighted methodology introduces some special estimation problems. Issues being considered include incorporating the rotating sample design into the weight estimation and index construction, and developing methods for incorporating quarterly weight updates that are resistant to chain drift.

The second primary topic within the area of economic analysis is econometric modeling. Research in this area can be divided into three categories: demand analysis, the econometrics of panel data, and studies of the distribution of consumption expenditures.

Two primary types of research are being conducted under the rubric of demand analysis. These include household demand studies and studies in which statistical/econometric approaches have been developed to address the problems which result when the basic assumptions underlying the usual regression model do not hold.

There are several household demand studies in which data from the continuing CE Survey have been used. These focus on quantity aggregation and price variation in consumer demand for food, estimation of income elasticity of expenditures for food, individual consumption within the household of clothing, omission bias in the estimation of household durable goods expenditures, expenditure patterns of single women and single men, an economic perspective of gift-giving behavior, and housing structure attributes and tenure status.

Statistical/econometric studies have been conducted to provide additional information concerning the quality of the data from the economist's perspective and to develop approaches which can be used to improve demand model specification. Quality studies include an evaluation of the food quantity data from the Diary and an analysis of the reporting of income using data from the Interview. Among the techniques developed to improve model specifications for use with the CE data are the development of grouping tests for regression misspecification, and diagnostic tools applicable to regressions estimated

with panel data or cross-sectional data drawn from a population with a grouped structure.

The second topic under econometric modeling is the econometrics of panel data. Given the sample and questionnaire designs, there are up to four observations on each consumer unit in the sample. This was also true for the 1972-73 Survey; however, with the rotating panel design, the survey period no longer coincides with the calendar year. Thus, examining the CE Survey data in a panel framework becomes a potentially desirable option for many researchers. Thus far, research in this area has focused on the autocovariance of aggregate expenditure share estimates over time.

The third type of economic research underway is the examination of consumption expenditures across demographic subgroups of the population. Two types of studies are being conducted: those in which mean expenditures and aggregate shares of expenditures are examined, and those in which concentrations of expenditures are the focus. The former studies include an examination of expenditures for goods versus services, and comparisons of the consumption patterns of the elderly versus the nonelderly, rural versus urban consumer units, and Hispanics versus non-Hispanics consumer units. Recent research from the second type of study focuses on the inequality in consumption expenditures using the Gini Coefficient.

The second major category of CE Survey research being conducted within the BLS is in the area of survey methodology. It is research in this area "today" which may potentially have the greatest impact on how we analyze and use the CE Survey data "tomorrow". Survey research projects technically support the economic uses of the survey. Their overall purpose is to improve the measurement of the variables used in economic analyses. I will review two areas of survey research: survey methods and management, and statistical methodology.

Over the years, the BLS has introduced improvements in the CE Survey methodology to produce comprehensive data sets on consumer expenditures and income. With the continuing survey, changes in survey methodology were introduced. These changes can have important implication for researchers using the CE data, especially when comparing results from the continuing CE Survey to the earlier 1972-73 Survey. The primary changes can be grouped, based on the scope of the change, into four categories: overall design, definitions, Interview-specific changes, and Diary-specific changes.

Overall the two surveys differ in terms of time frame, sample design, variance estimation, weighting, and data adjustment. One of the most important methodological differences is the change in time frame. As noted previously the current survey is continuous. Balanced repeated replication is used to estimate variances. A new weighting methodology, generalized least squares (GLS) weighting, is being used to produced published estimates. GLS weighting is used to narrow discrepancies between the Diary and Interview components of the Survey on estimates of the number of CUs in a variety of CU categories. GLS weights are available on the public use tapes for the 1984 data and forward. Finally, a detailed system of flags has been introduced as a part of the processing cycle for the continuing CE Survey to identify items which have been data adjusted and the type of adjustment.

Four definitional changes were introduced with the continuing survey which can potentially influence the results and conclusions of researchers using the CE data. Definitions of the population, consumer unit, reference person, and complete income reporters have all changed in some way. As noted earlier, the population has been redefined to include college students as separate consumer units when they live in college- or university-related housing. By including students in the population sample as separate CUs, results from any analysis concerning single CUs will be affected.

There are five primary differences in survey methodology which are Interview Specific. These include the introduction of a panel rotation sample design, a formal bounding procedure, a different target

sample size, a change in reference periods, and different procedures to deal with movers.

Perhaps the most profound change as it affects data users, and the only one I will note here, is the introduction of the panel rotation sample design. The panel rotation design has implications for researchers interested in conducting longitudinal analysis because of the overlap of successive cross-sections of data.

The primary change in the Diary for the continuing survey was a forms redesign. For the earlier survey, items were listed in the Diary in line-specific blocks. Line-block specificity was eliminated for the continuing survey. Research is being conducted within the Bureau to determine which form design produces better estimates (more on this later).

Since the continuing survey was initiated, additional changes have been implemented. Due to budgetary limitations in 1981, only urban CUs were included in the CE Survey sample for calendar quarter four in 1981 through calendar quarter four in 1983. The total population, urban and rural CUs, has been surveyed since that time. A new sample design was instituted in 1986. The new design reflects changes in primary sampling units, (geographic areas) from which the sample is drawn. The new design was introduced in February 1986 for the Interview and the beginning of 1986 for the Diary. Public use tapes for the quarter one Interview, will contain data collected using the previous sample design as well as the new sample design. However, beyond that quarter, the linkage of CU records for 1985 and 1986 will not be possible. Thus, it will not be possible to develop a data base composed of all CUs who are in the survey for four quarters overlapping the years such as one quarter in 1985 and three quarters in 1986.

Minor changes in the survey instruments and data codes have resulted due to the changes in recorded expenditure patterns of CUs and to refinements in expenditure item definitions. For example, additions to the Diary and Interview include specific reference to video games (hardware and software), computers for non-business use, and telephone answering devices. Specific reference to the rental of video cassettes, tapes, and discs, has also been added to the Interview and corresponding data base.

Let's focus on the changes for video entertainment equipment briefly. In 1982-83, less than one percent of the represented population reported expenditures for the purchase of a video cassette recorder (VCR); average expenditures over all CUs were approximately 21 dollars. By 1985, almost three percent of the sample purchased VCRs; average expenditures more than doubled to 54 dollars. The percent of CUs reporting expenditures for the rental of video cassettes, tapes, and discs has dramatically increased from less than one-half of one percent to almost five percent; average expenditures increased from fifty cents to approximately eight dollars. Additional changes in survey questions are expected as CUs expenditure patterns change to reflect changes in tastes and preferences and improved procedures for collecting CE Survey data.

Statistical methodology research is being conducted within the Bureau to investigate ways to improve the measurement of CE variables. Through the years, several topics have been identified to meet this goal. These include:

1. differential effects of recall length bias and telescoping for the Interview Survey,
2. development of composite estimates for quarterly change for the Interview Survey,
3. development of a multivariate analysis package for non-normal distribution testing, and
4. development of an income imputation methodology for small size sample surveys.

Recall bias and telescoping have been identified as potential concerns in data collection for the Interview. Recall bias results from the selective recollection of past events and is common in retrospective interviews. It is related to memory and tends to increase with longer recall periods and for less salient events. The incorrect reporting of events' time of occurrence, or "telescoping", interferes with an analysis of recall bias since it often affects reporting in a forward direction, thus combined "recall effects" result. Researchers within the Bureau have examined time-in-sample and recall effects in two studies using aggregate data from 1982-83 and microlevel data from 1984.

The earlier study revealed that recall bias, more than panel conditioning, contributed to the underreporting of expenditures. The researchers noted that internal telescoping, or erroneous reporting of the expenditure month, would not solely account for the systematic variations in mean expenditure by recall month.

The second study tested the importance of the relationship of CU characteristics and recall bias. The most important variables were the size, composition, and income level of the CU. Age and education of the survey respondent were important respondent characteristics. This study also pointed out how sensitive reporting patterns are to changes in interview week. As noted by the researcher, this was "a variable influencing not only the length of the reporting period but also the respondents' perception of it."

The Diary is the focus of related research. A Diary supplemental survey was conducted in the second quarter of 1984 to study the attributes and record-keeping behavior of Diary respondents. Results from this study indicate that almost 20 percent of the respondents completed at least one of the two diaries by total recall. The extent of recall poses an obvious threat to the quality of the data received from the Diary survey. Of the respondents who kept the Diary, most reported that expenditures were made every day and that the entries included expenditures made by other family members.

Another methodological research study undertaken at the Bureau (with data collected by the Bureau of the Census) is referred to as the Diary Operational Test. The focus of this research is to evaluate the influence which survey procedures have on response error. The effects of two variables are being examined in a design which uses data from both a special research sample and the regular Diary sample to make comparisons. One variable measures the effect of the current practice of having the Diary and the Interview Surveys conducted by the same interviewers. Since the Quarterly Interview involves so much more of the interviewer's time than the Diary, it is suspected that less emphasis has been placed on the quality of data gathered from the Diary.

The other variable concerns the physical layout of the Diary. Recent research into reporting rates from both the 1972-73 and 1980-81 Diaries indicate that explicit references in the Diary to particular products increase the likelihood that those items will be reported, especially if the reporting rates are low to begin with. To evaluate Diary formats which provide more explicit instructions as to the commodities to be reported, two experimental Diaries were developed. One has blank lines for recording purchases under major section headings with detailed descriptions, and the other Diary has only category titles.

Data for the Diary Operational Test were collected during six months in 1985; however, these data have only recently been received from the Bureau of the Census. Analyses of these data are currently underway.

The most recent work at the Bureau on respondent conditioning and questionnaire design is being conducted using methods from the field of cognitive psychology. Cognitive psychology is the study of

one's interpretation of a subjective reality. It deals with the opinions, beliefs, and attitudes a person holds of his/her world. Cognitive psychology methods are being used to deal with the issues of nonsampling error in the CE Survey.

Cognitive research at the Bureau is in its preliminary stages. The first step was to sponsor a conference, in January of this year, to obtain the advice and comments of a panel of outside experts on the development of a research plan for improving current survey questionnaires and interviewing procedures. This panel included cognitive and social psychologists, statisticians, economists, and representatives from other social sciences. After the conference, panelists prepared a report with a list of suggestions for future research. Suggestions were detailed and numerous. Advisors agreed that both laboratory and field research are necessary to understand and improve the survey instruments. Each advisor recommended that BLS conduct studies using cognitive psychological techniques such as "think-aloud" interviews. Advisors focused their attention on four broad areas which they thought were particularly problematic: selecting a respondent and respondent accuracy, the roles of the respondent and the interviewer, the form and content of the survey instruments (particularly the Interview), and statistical estimation research. Cognitive research has already begun for the Interview Survey. Recently an experimental vacation home supplement was tested in a laboratory setting. A "think-aloud" technique was used to access the perceptions of respondents to the questions and to gain a better understanding of their cognitive processes. Respondents were BLS employees who owned vacation homes. A similar study was conducted to test an automobile leasing supplement. Results from both studies indicated that clarification was needed for several questions. This is of particular importance for the vacation home study since rental charges for a given property can change within a week, for holidays, and over seasons. Further such work should lead to improved questionnaire designs and interviewing procedures, resulting in reductions in nonsampling bias.

The second statistical methodology topic of research, composite estimation of estimates, is directly linked to BLS plans to publish data routinely on a quarterly basis. Composite estimation is used to combine data from several sources into a single estimate in such a way that the resulting estimate is more accurate than any of the component estimates. Future research in this area includes the development of composite estimators which measure quarterly level and change estimates.

The third topic for future methodological research is the development of a multivariate analysis package for non-normal distribution testing. Hypothesis testing based on the assumption of normality of the underlying data may permit improper inferences if the data are substantially non-normal. To detect significant changes and trends in mean expenditures or relative importances for the CE Survey, statistical tests need to be developed that are resistant to non-normality. Researchers within the Bureau are conducting preliminary work on this issue; however, more comprehensive analysis is needed before an automated statistical system can be developed.

The fourth and last statistical methods topic to be discussed deals with data imputation, income imputation to be specific. Imputation methods are used to account for question nonresponse. Frequently, failure of an individual to respond to particular items is related to item sensitivity. Income questions tend to be highly sensitive to many people; consequently, item nonresponse for income are expected to be high. Historically, for the CE Survey data imputation has not been used to account for missing or invalid entries for income. However, from a research point-of-view, there is interest within BLS to develop an income imputation methodology for the CE. Research being conducted on this topic currently focuses on the characteristics of CUs who fail to report complete income. This research should have important implications for developing imputation methods which could be used to input income for nonrespondents.

In conclusion, I would like to note again that the Consumer Expenditure Survey provides us with a rich source of information on the variables affecting family spending patterns and welfare. This afternoon I have taken you on a journey which began in 1888 with the first survey of consumer expenditures. We have now reached the 1980's. The population from which the data are obtained and the methods of data collection have changed. I have highlighted some of these changes and have reviewed research which we are conducting at the Bureau of Labor Statistics to further analyze and improve the Consumer Expenditure Survey data. Research in the areas of aggregate statistics, econometric modeling, index numbers, and survey methodology is expected to continue as we move into "tomorrow." Progress in all of these areas, both within and outside of the Bureau, will permit the full potential of the Consumer Expenditure Survey, as an instrument of the analysis of family consumption and economic welfare, to be realized.

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CONSUMER REACTIONS TO PRICE SAVINGS ON FOOD¹

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Obtaining low prices for groceries continues to be mentioned by over 90 percent of all consumers as the major reason for choosing their supermarket². There is great potential in the market today for consumers to save on their food bills. Savings can be obtained on groceries through use of coupons distributed by retail outlets and manufacturers, sales, and by comparison shopping. Expenditures on food away from home may also be affected by savings on groceries. This study examines how expenditures on grocery items and food away from home in dual earner households are affected by perceptions of savings available on grocery items.

Dual earner households currently represent a large and growing segment of the United States' population. In the last twenty years this segment has grown from 37 to 45 percent of the population. In addition, dual earners have one of the largest levels of disposable income of any population segment. In constant 1986 dollars, disposable income for this group has increased from \$23,099 in 1966 to \$36,717 in 1986³. When two adults are employed in the labor market, increased demands are likely to be placed on time available for household activities, including grocery shopping. Moreover, increases in income permit more goods and services to be chosen from and purchased.

Given increased time demands and increasing incomes in dual earner households, one might not expect this group to react strongly to price savings on food items. Any one food item in a grocery basket represents a small percentage of the total

¹This research was funded in part by the New York State Board of Agriculture and Markets, members of the Board of the NYS Milk Promotion Order, and a Grant-In-Aid of Research from Sigma Xi, the Scientific Research Society.

²See "Trends: Consumer Attitudes and the Supermarket." (Washington D.C.: Food Marketing Institute Research Division, various years).

³U.S. Bureau of the Census, Median Income of Families by Selected Characteristics, Race, and Hispanic Origin of Householder, various years.

share of income spent on food. All food purchases represent about 14.7 percent of disposable income for the general population⁴.

Despite expectations, it appears that dual earners do react to savings available on food. Kaitz (1979) found that 52 percent of employed women checked the food ads and 22 percent shopped at more than one store⁵. These figures were obtained during a period of high inflation for food items. Between 1977 and 1979, food prices increased an average of 10 percent per year. A 1986 sample of dual earner households from Onondaga County, New York revealed that 95 percent of shoppers reported reading the food ads, 92 percent clipped coupons, and 39 percent shopped at more than one store. These techniques were used to save money on grocery bills even though food prices increased an average of only 3 percent per year since 1984. Saving on the family food bill appears to be becoming more popular, despite low inflation for food items.

CONCEPTUAL FRAMEWORK AND DATA

The reaction of consumer expenditures to changes in savings is one way of examining the effect of price changes on consumer behavior. In this research consumer price information search and expenditures on food goods are modelled in a framework that combines household production theory and the economics of information⁶. In household production theory time and goods are combined to produce commodities that yield satisfaction. For example meals are produced using time and food inputs. The completed meal produces satisfaction, not the food purchased at the supermarket. Price information is included as a home produced good produced using time inputs and purchased inputs such as newspapers and transportation costs used to locate lower prices.

In cross section prices are usually assumed to be constant. However, because price dispersion exists during a single time period, cross section data can be used for estimation. The data used in this study were collected during summer 1986 from a sample drawn from Onondaga County, New York. A telephone survey followed up by a mail survey yielded 95 complete questionnaires. All the households consisted of two adults and two adult part or full time workers, with or without children. A comparison of the sample with the general population of dual earners revealed no significant differences in mean incomes or number of children, though the sample over represented professional occupations and those persons with college educations⁷. This is not unusual in survey research,

⁴See National Food Review, Yearbook, 1987.

⁵Kaitz, Evelyn, "Getting the Most From Your Food Dollar," National Food Review, Winter, 1979, pp. 26-29.

⁶See Gary Becker, "A Theory of the Allocation of Time, Journal of Political Economy, Vol 75, September, 1965, pp.493-517 and George Stigler, "The Economics of Information," Journal of Political Economy, June, 1961, pp. 213-225.

⁷See U.S. Bureau of the Census, Current Population Reports, Earnings in 1983 of Married-Couple Families by Characteristics of Husbands and Wives, 1986.

especially when time and money constraints prohibit recontacting non respondents more than three times. Considered a population in itself, inferences can be made about this particular market segment. Table 1 presents summary statistics.

Table 1. Summary Statistics of the Onondaga County Dual Earner Sample.

VARIABLE	MEAN	STANDARD DEVIATION
Perceived dollar savings on weekly dairy groceries.....	.63	.42
Actual dollar savings on weekly dairy groceries.....	.66	.98
Perceived dollar savings on weekly non-dairy convenience groceries.....	4.11	2.76
Actual dollar savings on weekly non-dairy convenience groceries.....	3.10	2.39
Weekly expenditures on dairy fast food away from home (purchased at restaurants cafeterias, etc. that do not offer table service)...	4.42	6.02
Weekly expenditures on dairy full-service food away from home (table service is offered).....	4.87	9.09
Weekly expenditures on non-dairy food away from home.....	11.55	12.80
Weekly expenditures on non-dairy convenience foods.....	24.58	12.18
Weekly expenditures on dairy groceries.....	5.88	4.33
Number of hours spent searching for lower prices weekly by major shopper.....	2.33	4.19
Age of major shopper.....	37.74	9.47
Percentage of shoppers who have completed college*...	.44	
Weekly non-wage income (includes salary of non-shopper).....	460.43	225.81
Number of children twelve and over living in household.....	.64	.93
Percentage of shoppers holding a professional or administrative position*.....	.52	
Yearly family income in dollars.....	40359.40	14175.52
Price of search time.....	5.79	4.76
Number of children under the age of twelve living in a household.....	.73	.92

*For variables measured as dummy variables, the proportion of the sample satisfying the specified condition is presented instead of the mean value.

EMPIRICAL FRAMEWORK AND RESULTS

Estimation of reduced form equations in a system identifies the total effect of a change in an exogenous variable on a given expenditure share, taking into account interdependencies among the endogenous variables. These are the results that are of interest to consumers and marketers.

The demand equations derived from the maximization model were represented empirically as expenditure shares of full food income to correct for the heteroskedasticity that occurs because there is likely to be a larger variance in food expenditures for higher income consumers than for lower income consumers⁸. Relevant equations estimated included the share of full food income spent on dairy groceries, non-dairy convenience groceries, dairy fast food away from home, dairy full-service food away from home, non-dairy food away from home, and price information search⁹. Expenditure shares were estimated as a function of the wage rate, perceived savings, non-wage income, number of young and older children, whether a person ate food away from home for social or business reasons, whether the major shopper in a household completed college, a measure of the quality of convenience food items, and a measure of the enjoyment a shopper obtains from search time. Of particular interest here are the effects on expenditures from savings on dairy and nondairy groceries. Because consumers "produce" savings via price information search, it is also of interest to examine the effect of changes in the price of search time on expenditures for food¹⁰.

Some respondents reported zero expenditures on dairy groceries and food away from home. These equations were estimated using the Tobit maximum likelihood technique which corrects for bias created when using censored samples¹¹. Ordinary Least Squares was used for estimation of non-dairy convenience groceries and search time equations because all respondents reported positive expenditures.

Interpretation of coefficients when endogenous variables are expressed as expenditure shares is difficult because both the numerator and denominator of an expenditure share may change when an exogenous variable changes. Therefore, it

⁸Full food income consists of the value of all time and purchased inputs used in food price information search and meal preparation. This subset of full income could be used because weak separability was imposed on the utility function.

⁹Non-dairy convenience foods consist of frozen and canned fruits and vegetables, dry mixes, prepared soups and sauces, cold and instant cereals, bakery products, meats already boned, skinned, canned, or cooked, and frozen dinners and entrees.

¹⁰In the model estimated, the price of search time is not equal to the market wage, but equals the wage rate minus marginal savings available in the market. The estimated coefficients allow the effect of the price of search time to be examined separately from the effect of a change in the price of other uses of time, measured by the wage rate.

¹¹See Maddala, G.S., Limited Dependent and Qualitative Variables in Econometrics, (Cambridge: Cambridge University Press, 1985).

was useful to transform coefficients into marginal changes in expenditures¹². These coefficients were then used to calculate savings and price of search time elasticities.

Six significant results were found. The following results are for consumers who had positive expenditures on dairy groceries and non-dairy convenience groceries during the survey week.

1. A 10 percent increase in perceptions of savings on dairy foods leads to a 2.8 percent decrease in expenditures on dairy foods.
2. A 10 percent increase in perceptions of savings on non-dairy convenience foods leads to a 2.8 percent increase in expenditures for dairy foods.
3. A 10 percent increase in perceptions of savings on non-dairy convenience foods leads to a 1.8 percent decrease in expenditures for dairy fast food away from home.
4. A 10 percent increase in the price of search time leads to a .9 percent increase in expenditures for dairy foods.
5. A 10 percent increase in the price of search time leads to a 2.4 percent increase in expenditures for non-dairy convenience foods.
6. A 10 percent increase in the price of search time leads to a 1.7 percent increase in expenditures for dairy fast food away from home.

The first result reveals good news for consumers. It appears that consumers actually save money on their dairy food expenditures when perceptions of savings for dairy foods increase. They do not over compensate for increases in perceived savings by increasing the quantities purchased by more than the savings available.

According to the second result, consumers apparently utilize "income" generated through the production of savings on non-dairy convenience foods to increase expenditures on dairy foods. This is good news for the dairy industry, which is trying to persuade consumers to increase consumption of dairy foods. It is

¹²This transformation is

$$\frac{\partial P*Q}{\partial X} = \left[\frac{\partial y}{\partial X} * F + \frac{\partial F}{\partial X} * y \right]$$

where $P*Q$ = expenditures on time or goods
 X = exogenous variable which changes
 y = expenditure share
 F = full food income

$\partial y / \partial X$ is the estimated coefficient on the exogenous variable in question. F , y and $\partial F / \partial X$ are obtained from the data.

potentially good news for consumers who are interested in the nutrition provided by dairy foods as compared with "convenience foods."

The third result reveals that consumers may be substituting food at home for dairy fast food away from home as the price of non-dairy convenience food becomes relatively cheaper through available savings. Thus the total time and monetary cost of producing meals at home using convenience items may become a better alternative than eating fast food away from home to save time.

The last three results indicate that as the price of search time increases, so do certain expenditures. These effects could be due to two different reasons. First, as the price of search time increases, the demand for search time should decrease. Consumers who spend less time in price information search may pay higher prices. Second, as the price of search time increases, the price of other time uses may increase as well. Consumers may increase the use of dairy foods, non-dairy convenience foods, and fast food away from home to save time in meal preparation.

OUTLOOK

The general outlook for consumers wishing to save money on their food bills is optimistic. As long as consumers continue to engage in price information search, we are likely to see an inelastic decrease in food expenditures as a response to increases in savings. This is good news for consumers, as they appear to actually save money on their food bills. In addition, if one can infer that increases in price information search have taken place since 1978 by comparing Kaitz's results with those of the present study, there is evidence that price information search may increase even if all other factors remain constant. Reactions of consumers to price savings, however, will depend on general economic conditions, the actions of food manufacturers and retailers, and consumer sentiment over the next months.

The October 1987 Survey of Consumer Sentiment indicated that consumers are less optimistic about the economy¹³. Surveys conducted by Advertising Age during the weeks of October 19 and 27, 1987 indicated that about one-fourth of consumers expect to decrease spending on groceries and close to one-third expect to decrease spending on food away from home in the near future. However, as of November 3, 1987 these figures had fallen to 12 percent and 16 percent respectively¹⁴. It is likely, given the above indicators, that price information search will rise as consumers attempt to moderate food expenditures. More time is needed, however, to determine how the recent shock to the financial community will affect trends in price information search and consumer spending for food.

¹³See Economic Outlook, quarterly publication of the Survey Research Center, Institute for Social Research, University of Michigan.

¹⁴See Advertising Age, "Most Buys Put on Hold", October 26, 1987, "Consumer Worry Keeps on Rising," November 3, 1987, and "Good News: Consumers Bounce Back, November 10, 1987.

Consumers are also likely to be sensitive to future price increases. Given low inflation levels for groceries during the 1980's, any price increases may be seen as "irregular" and immediately noticed. If food prices do rise, consumers will probably engage in both cutting down on food purchases and increasing savings on their food bills through price information search. Convenience items for which consumers pay a premium for the time savings offers may be one of the first items to be cut back on. In response, food manufacturers are likely to increase savings available to consumers on these items by way of increasing available coupons or offering supermarkets incentives to place these types of items on "special", making price information search more profitable for consumers. This is relatively good news for consumers. Even if prices do rise, there should continue to be savings available to consumers. In this scenario, searching for lower prices may become more important for consumers wanting to moderate food expenditures.

The one scenario which may be detrimental to consumer savings is if supermarkets discontinue offering double coupons. Many supermarkets double coupon values as an incentive to attract consumers. If supermarkets remove this incentive, savings obtained by some consumers could fall by as much as one half. The return from engaging in price information search may become too small to justify the effort for consumers with higher prices of time.

Consumers who wish to obtain savings on a market basket will have to continue to engage in price information search. This study focused exclusively on dual earners households where shoppers generally have higher prices of time than shoppers in households with single earners¹³. If non-employed shoppers perceive similar savings available in the food market (and there is little reason to believe their perceptions of savings would differ), their price of search time will continue to be lower than that of employed shoppers. If price dispersion persists in the future, all groups may find it worthwhile to engage in price information search. Overall, it appears that all groups of consumers can continue to benefit from savings available on groceries, even if some consumers engage in more or less price information search than others.

¹³Bryant and Zick, "Alternative Strategies for Pricing Homework Time," Home Economics Research Journal, 12(2), 1983 found that non-employed consumers had consistently lower wage rates than employed consumers when using either the reservation wage or market alternative approaches to pricing home work time.

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CONSUMER SPENDING AND SAVING: THE OUTLOOK FOR 1988

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In the fall of 1987, the United States entered its sixth year of sustained, economic expansion. Growth in the Gross National Product (GNP) declined to a 2.5 percent annual rate, down from a 4.8 percent annual rate at the beginning of the year. However, other measures such as real final sales and consumer spending continued strong, registering 6.2 percent and 4.8 percent annual increases, respectively.¹ Despite these indicators of economic health, the outlook for 1988 is clouded by uncertainty resulting from a precipitous decline in stock prices, uneasiness with the growing trade and Federal budget deficits, and complexity of international monetary and exchange relationships.

The outlook is confounded further by difficulty in forecasting consumer response to changing economic conditions. Consumer spending comprises two-thirds of the economic activity in the United States; it has driven much of the economic growth in recent years. The question for 1988 is whether consumers can sustain spending levels sufficient to continue fueling economic expansion.

This paper reviews the economic conditions and trends influencing consumer spending and saving. Spending is determined by both ability and willingness to buy; thus, consumer prices, income and employment, and access to credit, as well as confidence and expectations, are reviewed. Saving is determined by the relationship of current household needs to resources; returns available in the market, particularly interest rates; and expectations for the future. The paper therefore includes a brief review of factors and constraints which influence saving. The paper concludes with the outlook for consumer spending and saving in 1988.

¹ Estimates of GNP and its components are published monthly in the Survey of Current Business, U.S. Department of Commerce, Bureau of Economic Analysis.

Spending

Consumer spending moderated in October 1987 after increasing steadily during the summer months. Most of the decline is attributable to flat auto sales as manufacturers and dealers discontinued sales incentive programs at the start of the new model year. Some components of consumer spending were inexplicably strong during the month, however. Sales of existing homes climbed 3.2 percent during October despite rising mortgage rates early in the month and the stock market decline later.

Month-to-month changes in spending may not accurately reflect underlying trends, however. Many components of consumer spending move in response to external conditions, such as weather. For example, August expenditures for services moved up sharply, probably the result of high utility bills generated by a widespread heatwave. Expenditures for many other items, such as small household appliances and gifts, children's clothes and toys, and vacation travel, tend to vary by season of the year or with cultural norms.

Despite month-to-month swings in consumer spending, the long-term trend has been toward increased spending, both in inflation-adjusted dollars and as a proportion of income. Between 1981 and 1987, consumption increased an estimated two percentage points as a share of the total family budget for those at the lowest and the highest budget levels. In 1981 families at a low level of consumption used 79 percent of their budget for consumption needs; in 1987 consumption will claim about 81 percent of these families' budgets. For families at a higher level of consumption, the increase between 1981 and 1987 is estimated to be from 65 to about 67 percent of the budget.²

Increases in consumer spending have been driven by different commodities during the past several years. In 1985 and 1986, spending for durable goods spiked upward reflecting rapid increases in the number of new households, demand deferred from recession years early in the decade, and currency exchange rates that made imported cars and electronics relatively inexpensive. In 1987 services led increases in consumer spending. Spending for durable goods is likely to moderate in 1988, but spending for services is projected to continue to increase. Similarly, services are likely to claim an increasing share of total consumer expenditures through the end of the decade as both prices and demand rise.

Prices and their rate of change are primary determinants of consumer spending. The Consumer Price Index for All Urban Consumers (CPI-U) rose at an annual rate of 4.7 percent in October 1987.³ After subdued inflation in 1986--the CPI-U rose only 1.1 percent--some commodities registered sharp upturns early in the year. For example, energy prices, which declined 19.7 percent in 1986, increased at an annual rate of 16.7 percent during the first 6 months of 1987.

² For details see Hefferan, C., "Family Budget Guidelines," Family Economics Review, 1987(4):1-9.

³ Monthly CPI-U data are published in News and the CPI Detailed Report, U.S. Department of Labor, Bureau of Labor Statistics. Current CPI information is also available via taped telephone message at 202-523-1239.

Food prices have increased slightly more rapidly in 1987 than in 1986, led by increases in prices for red meat and fresh fruits and vegetables. However, shelter costs have increased at about the same rate in 1987 as in 1986, initially led by rising house prices and later influenced by increasing financing costs. Overall, inflation across commodities has been relatively even in 1987 without the wide variation in price increases that characterized past years. This suggests there may be less opportunity for substitution across price elastic products and consequently less price-induced distortions in consumer spending patterns.

Perhaps because inflation jumped significantly in 1987 above its historically low level in 1986, there is some evidence of renewed concern that prices may be poised for a sharp increase in 1988. A proliferation of special price indices composed of selected components of the consumer marketbasket have found a place in the public debate about inflation. These indices, including a "nuisance index" that prices items such as movie tickets, fast food meals, and bus fares, show large increases in the prices of these highly visible and frequent purchases. The special indices typically do not show the total array of costs faced by consumers, however.

Although inflation remains a concern, consensus forecasts suggest the CPI-U will rise between 4 and 5 percent in 1988, about the same rate of increase as in 1987. Prices of durable goods, led by Japanese and European autos and electronics, may rise more rapidly than the overall index, reflecting the weakening U.S. dollar. Housing, transportation, and labor-intensive service costs, on the other hand, may moderate in 1988 in response to a general economic slowdown.

Income is the second important influence on consumer spending. Consumers will enter 1988 with the benefit of almost 6 years of sustained growth in income. Since 1982 real personal income has increased 14 percent; the rate of increase has escalated over the period. In October 1987 nominal personal income rose 1.7 percent, the largest monthly advance since June 1975. Although much of this increase was due to a one-time surge in government farm subsidy payments, the long-term pattern of income growth has been consistent and strong.

The components of personal income have grown at uneven rates, however. The trend toward erosion of earned income and expansion of unearned income that prevailed early in the decade was reversed beginning in 1985. The relative gains made by older households and others dependent on government transfer payments have moderated during the past 2 years. As pressures to reduce the Federal budget deficit intensify, government transfer payments are unlikely to increase in real terms in 1988. Similarly, growth in income from other nonearned sources such as proprietor's income and interest income, has slowed relative to growth in earned income including wages and salaries. This pattern is likely to be exacerbated in 1988 by a decline in asset income resulting from the August through October decline in stock values. Although some of the decline was, or will be, offset by increases in nonequity investments, there may be as much as a 1 percentage point decline in income as the result of sinking stock prices.

Except for short-term swings caused by cost-of-living adjustments to Federal retirement and income support programs and by pay-out schedules for farm subsidy programs, the trend is toward more rapid growth in earned than nonearned income

for the remainder of the decade. This indicates that the income position of households headed by current wage and salary earners, especially those with 2 earners, will improve relative to households with no earners. This will expand the already wide gap in income between households headed by earners and those headed by nonearners.

Data on family income lag that available on aggregate personal income. Nonetheless, information on family income for 1986 (the latest year for which data are available) supports the trends suggested in the aggregate data. Overall, median family income grew 4.2 percent, adjusted for inflation, from 1985 to 1986. Income growth was especially strong among black and Hispanic married-couple households, those living in the South, and farm households. Female-headed households, on the other hand, suffered a 2.0 percent decline in real income between 1985 and 1986. Table 1 shows the level of income and percent real change from 1985 to 1986 for selected household types.

Growth in employment parallels growth in income. In October 1987 civilian employment reached 113.2 million. During the prior 12 months, employment grew by 3.0 million, with adult women accounting for 1.5 million; adult men, 1.4 million; and teenagers, 120,000. Gains in employment were matched by large increases in the labor force; thus, although employment grew, unemployment remained essentially unchanged, hovering near 6 percent throughout 1987. Some segments of the workforce continue to experience very high levels of unemployment. In October the unemployment rate was 17.4 percent for teenagers; 12.0 percent for blacks; and 7.9 percent for operators, fabricators, and laborers. At the same time, unemployment was relatively low for other groups such as adult males (5.1 percent), adult females (5.2 percent), and managerial and professional workers (2.7).

The average duration of unemployment declined to 14.3 weeks in October 1987. Similarly, the likelihood of a household experiencing unemployment among one or more of its members sometime during the year declined from one-in-five early in the decade to an estimated one-in-seven in 1987. These factors influence both the amount of income and the level of confidence households bring to spending decisions.

As income and employment have risen, the number of persons in poverty has declined. In 1986 (the latest year for which data are available) the poverty rate was 13.6 percent, with 32.4 million persons below the poverty line. Although not significantly different from the 1985 figure, the number of poor was significantly below the decade peak of 35.3 million reached in 1983 when the rate was 15.2 percent. The gap between the poverty status of children and the elderly, which first emerged in the early eighties, widened in 1986. The poverty rate among those 65 years of age and older was 12.6 percent, whereas the rate for children 18 years and younger was 17.1 percent. For children 6 years and younger, the rate was even higher, approaching 22 percent.

The growing incidence of poverty among children is closely linked to the low, and in 1986 declining, income in households headed by women. As the poverty thresholds that will determine eligibility for participation in Federal assistance programs in 1988 rise to reflect 1987 price increases, more single mothers and their children are likely to fall below the poverty line. (See Table 2 for the 1987 poverty guidelines.)

The poverty population changes from year to year as households experience critical events with economic consequences--unemployment, illness, and divorce, for example. Households with just one adult available to work are especially vulnerable to economic crises. Continued growth in the number of children living in such households suggests that childhood poverty may become more pervasive during the remainder of the decade.

Credit exerts a strong influence on consumer spending, particularly for durable goods, autos, and housing. Consumer and mortgage credit continued to expand in 1987, extending a 6-year trend. In August consumers increased their installment credit by almost \$5 billion, bringing the total outstanding to just under \$600 billion. Also, consumers hold about \$2.8 trillion in mortgage debt. Although credit spending and new mortgages slowed somewhat in October, there is little evidence to suggest borrowing will decline sharply as the availability and cost of credit improves in coming months. However, growth in credit is likely to moderate in 1988 as fewer new households are formed, and as consumer demand for durables is tempered by rising prices. The composition of the consumer debt portfolio also may change with growth in mortgage-backed credit substituting for some installment credit.

Interest rates paid by consumers declined during the first 2 quarters of 1987, increased during the third quarter, and are again beginning to decline. The average rate for a 48-month new car loan offered by commercial banks was 10.20 percent in May 1987 compared to 11.33 percent in 1986. By August the rate had increased to 10.37 percent; preliminary reports show a .20 percent decline since August. Similarly, conventional mortgage rates declined from 9.53 percent in January 1987 to 9.11 percent in April, compared to 10.54 percent in 1986. Although mortgage rates began to climb in May, in recent weeks rates have declined by almost one percentage point. This trend is projected to continue into 1988 with both installment credit and mortgage rates dropping between one-half and one and one-half percentage points.

New housing starts, as well as sales of existing and new houses, respond quickly to changes in interest rates. For example, housing starts dipped to a 1.6 million annual rate in May, down from about 1.8 million in February. Auto sales also move with interest rates. Sales spiked in August when auto manufacturers and dealers implemented discounted loan rates; sales slumped in October when the promotions were discontinued.

Other types of consumer credit, especially credit cards, appear to have less influence on spending levels, but significant impacts on financial management practices. Analyses of the 1983 and 1986 Surveys of Consumer Finances sponsored by the Board of Governors of the Federal Reserve System indicate that although consumer installment debt, particularly credit card debt, has expanded substantially, debt service payments have not risen commensurate with this growth.⁴ This suggests that consumers may be using credit cards as a convenient medium for transactions, incurring debt that is reflected in a high debt to income ratio (about 19.7 percent in 1987), but paying the debt quickly.

⁴ See Avery, R.B., G.E. Elliehausen, and A.B. Kennickell (1987). "Changes in Consumer Installment Debt: Evidence from the 1983 and 1986 Surveys of Consumer Finances," Federal Reserve Bulletin 73:761-778.

Debt burdens of families also vary considerably over time, suggesting credit may be used to align needs with expected income. The surveys show that families with heavy debt burdens may reduce their ratio of payments to income by increasing their income. In other words, families may meet needs during low income periods by using credit that is subsequently paid off when income rises--general evidence of life cycle income management. Finally, the surveys show that 80 percent of the families holding installment debt have sufficient financial assets and home equity to cover their debts.

Confidence is the final critical determinant of consumer spending. Confidence indices summarize the psychological and potential behavioral impact of political, social, and financial events that may influence consumer choices. The decline in stock prices that began in late August 1987 and culminated in the October 19, 1987, stock market crash, is an event likely to alter consumer confidence. Spending and other economic decisions of consumers, regardless of the direct or immediate consequences experienced from the actual event, are likely to respond to changes in confidence.

The Index of Consumer Sentiment, a reliable precursor of economic activity, particularly retail sales, plummeted to 82.4 after the October 19, 1987, decline in stock prices.⁵ In September the index registered 93.6 indicating consumers were about 94 percent as confident in business and financial conditions then as in 1966, the base year for the index. The index ebbed to 54 during the 1980 recession and reached 99.3 as recently as June, 1986.

Other indices show similar pictures of consumer confidence. The industry-supported, nonprofit Conference Board's Consumer Confidence Index fell from 116.9 to 110.4 (1986 is the base year.) immediately following the stock market plunge. The Sindlinger Consumer Confidence Survey showed a similar decline. The Sindlinger survey, conducted by a private, Pennsylvania-based research firm, distinguishes attitudes of stock investors from noninvestors. Predictably, investors are significantly less optimistic than noninvestors.

Confidence is influenced by broad economic conditions and personal economic circumstances, as well as specific events. It is difficult to predict the course of consumer confidence for 1988; however, most factors influencing the economic environment in early and mid-1987 remain salient today. Depending on how consumers weigh the range of factors determining their economic fate, confidence may quickly rebound in 1988.

Saving

Consumer saving rose to 4.7 percent of disposable personal income in October 1987, up from 3.0 percent in the previous month. Despite the increase, saving will average about 3.2 percent of disposable personal income in 1987. This is a significant decline from the 4.2 percent rate registered in 1986 and a precipitous drop from the 6 to 9 percent rates through the early eighties.

⁵ The index is collected as part of the Survey of Consumer Attitudes by the Institute for Social Research, University of Michigan.

Many explanations are proffered for the decline in saving. Demographic changes, including the baby boom generation's aging to the prime spending years and increasing numbers of two-earner families, for whom jobs may substitute for the financial security engendered by savings, lead the theories. Also, consumer saving tends to move in a counter-cyclical pattern. During periods of economic expansion, consumers respond by increasing spending and acquiring debt. During downturns, consumers retrench, reducing spending and credit use. The current low rate of saving may be characteristic of the sustained economic expansion extending through the fall of 1987. As economic uncertainty prevails in early 1988, saving is expected to rebound.

Although consumer wealth declined in October from the high levels reached mid-year, overall household net worth remained strong in 1987. Net worth equaled about 375 percent of annual disposable income at the beginning of 1987, up from about 350 percent in 1986. The total impact of the decline in stock values, which represent about 20 percent of household assets (in the form of corporate equity holdings and pensions), is difficult to estimate. Many assets were quickly shifted from stock investments to other instruments. Regardless of how assessed, household net worth has probably not declined below the levels registered at the start of 1987. Home equity, savings accounts, and small businesses and farms continue to provide the base of household portfolios. These assets are likely to increase in relative importance to consumers in 1988.

Some consumers may be surprised to learn that their portfolio has changed during the year, not only in value, but also in composition. For example, workers holding pensions invested in equities may find retirement resources diminished. Those holding balanced mutual funds and related instruments, such as managed Individual Retirement Accounts, may find that they now hold more bonds than stocks. For many individuals, investments either declined or failed to grow at expected rates. This may further support the "flight to quality" in consumer saving and investing that was evident immediately following the stock decline. Billions of dollars moved from high-risk, equity investments to low-risk, often insured, savings instruments. Movement toward secure, liquid investments is likely to continue into 1988.

Interest rates available to consumers have been volatile in 1987. This pattern is projected to continue in 1988 with rates averaging about the same as in 1987. The pattern of returns may reverse, however, with rates peaking early in 1988 rather than late as in 1987.

Outlook for 1988

Growth in consumer spending is projected to slow in 1988 to about 3 percent compared to almost 5 percent in 1987. Three factors have been identified that will contribute to this. First, income growth, particularly nonearned income, will slow in 1988 reducing resources available for consumption. For example, the stock market decline may reduce consumer spending from wealth. Assuming a \$900 billion loss in stock values coupled with a 5 percent propensity to consume from wealth, spending will decline about \$45 billion.

Second, consumer credit will moderate as the result of a slowed rate of increase in new household formations and in response to tempered demand for durable goods. This will defer consumption as some consumers may elect to save in 1988 for future purchases--of perhaps relatively less expensive goods--rather than borrow to satisfy current wants and needs.

Third, confidence is uncertain, suggesting caution on the part of consumers as they formulate spending plans. The quantitative impact of this factor is difficult to estimate.

Changes in consumer spending are unlikely to be similar across all types of households. Linking spending data for different types of households, as measured in the Consumer Expenditure Survey, to aggregate income and consumer confidence patterns suggests several demographic groups most likely to alter their spending and saving. The first group is high-income households who are most likely to hold equity investments and therefore most likely to have experienced a decline in assets in October 1987. Eighty percent of stock equity is held by households in the highest income quintile. These households have a relatively low average propensity to consume; however, the items they consume out of unearned income may likely be discretionary and, therefore, deferred in 1988. In so far as these high-income households wield disproportionate spending clout, changes in their behavior will significantly influence overall consumer spending levels.

A second group likely to alter spending and saving plans in 1988 is households headed by persons nearing retirement. These households have relatively high asset holdings and potential access to unearned income. They will be faced with the double concern of moderating levels of Federal income support programs and uncertainty over asset income. Plans for the timing and style of their retirement may be reassessed in 1988.

Consumers will enter the end of the decade in an objectively strong economic position, beneficiaries of sustained growth in income, moderating prices, and high levels of assets. Consumer confidence may be battered by broad concerns, however, resulting in increasing caution manifested by lower growth in spending and high levels of saving.

Table 1. Comparison of median family money income in 1986 and 1985, by selected characteristics

	Median family income		Percent change in real money income
	1986	1985	
All families	\$29,458	\$27,735	\$28,269 4.2
Race of householder:			
White	30,807	29,148	29,713 3.7
Black	17,604	16,784	17,109 2.9
Spanish origin ¹	19,995	19,024	19,393 3.1 ²
Region:			
Northeast	32,160	30,544	31,132 3.3
Midwest	29,584	27,930	28,467 3.9
South	26,708	25,077	25,560 4.5
West	30,965	29,778	30,351 2.0
Type of family:			
Married-couple family	32,805	31,100	31,698 3.5
Wife in paid labor force	38,346	36,431	37,110 3.3
Wife not in paid labor force	25,803	24,556	25,029 3.1
Male householder, no wife present ...	24,647	22,622	22,751 8.3
Female householder, no husband present	13,647	13,660	13,923 -2.0
Farm status:			
Farm	23,326	21,853	22,273 4.7
Nonfarm	29,632	27,881	28,417 4.3

¹ Persons of Spanish origin may be of any race.

² Not statistically significant at .05 level.

Source: U.S. Department of Commerce, Bureau of the Census, 1987, Money income of households, families, and persons in the United States: 1986, Current Population Reports, Consumer Income, Series P-60, No. 157.

Table 2. Federal poverty income guidelines for 1987

Size of family unit ¹	Poverty guidelines		
	Contiguous (48) states and District of Columbia	Alaska	Hawaii
1.....	\$ 5,500	\$ 6,860	\$ 6,310
2.....	7,400	9,240	8,500
3.....	9,300	11,620	10,690
4.....	11,200	14,000	12,880
5.....	13,100	16,380	15,070
6.....	15,000	18,760	17,260
7.....	16,900	21,140	19,450
8.....	18,800	23,520	21,640

¹For family units with more than 8 members, add the following amount for each additional family member: \$1,900 (contiguous States and the District of Columbia); \$2,380 (Alaska); \$2,190 (Hawaii).

Source: Social Security Administration, Social Security Bulletin, October 1987/Vol. 50, No. 10.

ANNUAL AGRICULTURAL OUTLOOK CONFERENCE

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THE 1988 OUTLOOK FOR FOOD PRICES

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The Consumer Price Index (CPI) for food in 1987 has risen at a slightly stronger pace than it has in the past few years. The annual average of the CPI for 1987 is expected to be about 3.5 percent higher than 1986 and the food component will be up 4.1 percent. While the increase this year is slightly higher than the trend of the last 5 years, it is not a signal of renewed food price inflation. Prices of food sold in grocery stores have risen 4 percent this year and prices for food sold in restaurants and fast food establishments are up about 4.1 percent.

Major factors influencing retail food prices are; farm prices, costs of processing and distributing food, and consumer demand. Higher farm prices for a few farm commodities have had a significant impact on retail prices this year. Costs of processing and distributing food have increased slightly because of higher oil prices and some increase in labor costs. Consumer demand for food has remained stable as disposable personal income has risen very little. Each of these factors has had a positive effect on food prices this year, but farm prices for meat, fresh fruits, and fresh vegetables have had the strongest impact on the CPI for food.

Supplies of farm commodities in any given year have the most influence in determining the farm price. Therefore, a discussion of fruit and vegetable supplies this year along with a look at total meat supplies over the last few years will help to explain why prices have averaged higher this year. We will also look at the supply situation for next year, which will help to show why food price inflation is expected decrease.

Fresh Fruit

Apples, oranges, and bananas account for 44 percent of consumer expenditures for fresh fruit. Price changes for any one of these fruits, then, can have a significant impact on the whole fruit CPI. Such was the case in 1987. Prices of apples and oranges have averaged higher, pushing the index up. The CPI for fresh fruit is expected to average nearly 10 percent above 1986. Summer fruits were plentiful this year with prices below 1986 levels, but the strong weight and high prices of apples and oranges kept the index high.

Late frosts in the spring of 1986 damaged apple blossoms in the East as well

as in the Northwest. As a result, the apple harvest last fall was much smaller than normal and supplies in storage for 1987 were low. Because of the short supplies, retail apple prices increased, averaging at times 10 to 12 percent above year earlier prices. Good growing conditions this year brought a record large apple harvest, and prices this fall have dropped. Supplies in storage for 1988 are much larger and prices will average below 1987.

Orange trees are still recovering from freeze damage suffered several years ago. Total orange production was up this past season by about 4 percent over the previous season, but still remains below production levels prior to the freeze in late 1983. Much of the increased production was used to meet export commitments, therefore, little if any of the increased production reached domestic fresh markets. The current season's crop is estimated to be smaller than the 1986/87 crop and orange prices will remain high through most of 1988.

The CPI for fresh fruit in 1988 is expected to increase again but at a much lower rate than this year. Higher prices for oranges will be partially offset by lower prices for other fruits, particularly apples. Currently, the CPI for fresh fruit is expected to average 1 to 3 percent above 1987.

Fresh Vegetables

The CPI for fresh vegetables in 1987 will average slightly over 9 percent above 1986. Smaller supplies of potatoes, lettuce, and winter vegetables were the primary cause of price increases.

Potato prices have averaged higher this year than the very low levels of 1986. Because of a large 1985 fall potato harvest, stocks were large during 1986 and prices were very low. Growers reacted to the low prices by reducing potato acreage for the fall 1986 harvest. Smaller 1987 stocks resulted in prices significantly higher than 1986, but only slightly higher than 1985.

Lettuce supplies have also been smaller this year. Heavy rains in California have at times disrupted harvests and slowed shipments. Some California lettuce growing areas have been plagued with disease this year, further reducing supplies. Lettuce prices are extremely sensitive to supply disruptions and prices increased dramatically when shipments were down.

Fresh vegetable supplies during the first quarter of the year are usually supplemented by imports from Mexico. This year, a freeze in Mexico curtailed imports significantly, and markets were more dependent on production from Florida and California. As a result, fresh vegetable prices in the first quarter were well above year earlier, even though domestic winter vegetable acreage was up and production was above 1986. Otherwise, prices would have increased even more.

The CPI for fresh vegetables in 1988 is expected to average at or slightly below the levels of 1987. Good grower returns this year will likely induce growers to expand production in 1988. With larger supplies, prices are likely to remain stable if not fall slightly. These expectations are based on normal weather conditions. Fresh vegetable crops are vulnerable to severe weather, particularly from December to March, and a freeze could change the forecast considerably.

Meats and Poultry

Since 1983, the livestock industry has been in a period of adjustment. A drought that year severely damaged the corn crop reducing supplies of feed grains considerably and feed prices rose sharply. Pastures were also burned up because

of the drought. Feeding animals became very costly to producers at a time when farm financial conditions were less than ideal. As a result, producers began liquidating cattle and hogs and the size of breeding herds began to decrease. With larger supplies of cattle and hogs in the market, prices fell. Beef and pork production increased and retail meat prices decreased. Poultry production was also cut because of high feed costs and poultry prices rose sharply during 1983. The liquidation of cattle and hogs continued through 1984 and most of 1985, even though feed prices had declined. Red meat production began to decline, but poultry production was expanding to fill the void left by reduced supplies of red meats. By mid 1986 pork supplies were at record low levels and prices increased sharply. Beef production would have decreased also in 1986 had it not been for the dairy termination program where dairy farmers sent whole herds to slaughter in order to reduce milk production. Because of the very low pork supplies, beef prices rose and so did poultry. Poultry production continued to increase as producers took advantage of low feed prices prompted by the 1985 Farm Bill. Poultry was in strong demand in 1986, not only in grocery stores but by fast food chains who had heavily promoted new chicken items on their menus. Therefore, poultry prices increased sharply in the third quarter of last year even though production was also increasing sharply.

This year, beef production has declined about 4 percent and retail prices have continued to increase. Pork production remained low through the first three quarters of 1987 with prices also increasing. Because of high farm prices and low feed costs, pork producers have expanded production and supplies have now started to increase and prices have softened. Poultry production has continued to increase, with more than an 8 percent increase in broiler production and a 17 percent increase in turkeys. Retail prices for poultry have been falling for a year as supplies have increased. Retail poultry prices this year will likely average about 2 percent below 1986, but beef and pork prices will average 7 to 8 percent above 1986. Increased red meat prices this year have had a strong influence in the rise in the CPI for all food.

Beef supplies will continue to decrease in 1988, but pork and poultry supplies will continue to increase. Total supplies of red meats and poultry will exceed 1987 pushing per capita consumption to over 222 pounds from 216 pounds. With larger supplies next year, retail pork prices are expected to drop 8 to 12 percent and retail poultry prices will likely be down 6 to 10 percent from 1987. Although beef supplies will be smaller, lower prices of competing pork and poultry will prevent beef prices from rising much above 1987 levels.

Other Food Categories

Retail prices of foods in most other food CPI categories in 1987 have risen at a rate below that of the CPI for all food. The CPI for eggs this year will average nearly 5 percent below 1986 because of larger production prompted by low feed costs. The nonalcoholic beverage CPI will decline about 2.5 percent from last year because of lower coffee prices. The dairy product category will increase about 2.5 percent, most of which can be attributed to higher processing costs for processed dairy products. The CPI for cereals and bakery products is expected to increase 3.7 percent this year because of higher processing and distribution costs.

The CPI for fish and seafood is an exception. This will be the second year of strong increases in fish prices. Last year the index increased 9.2 percent over

1985 and this year an increase over 1986 of nearly 11 percent is expected. Demand for fish and seafood is extremely strong in America as the increase in consumption indicates. Per capita consumption of fish was 12.8 pounds in 1980, 14.4 pounds in 1985, and 14.7 pounds in 1986. Any increase in consumption in 1987 will likely be small because world fish and seafood supplies are declining. The U.S. and Canada have taken conservation measures which limit the quantities of certain species that can be landed by commercial fisherman until populations increase. These measures further limit supplies in the short term. In 1988 the supply situation for fish will not improve. Fish merchants will be searching longer and harder to find supplies to satisfy demand, bidding prices higher in world markets. Since much of our fish is imported, the declining value of the dollar will also play a role in higher prices.

Changes in Food Price Indicators, 1985 through 1988

	1985	1986	1987 ---Forecast---	1988
<hr/> Consumer Price Indexes <hr/>				
All Food	2.3	3.2	4.1	2 to 4
Food away from home	4.0	3.9	4.1	3 to 5
Food at home	1.4	2.9	4.0	0 to 2
Meat, poultry, and fish	-0.3	4.3	6.0	-2 to -4
Meats	-1.0	3.2	7.0	-2 to -4
Beef and veal	-2.1	0.6	7.1	-1 to 1
Pork	0.2	8.2	7.9	-8 to -12
Other meats	0.6	2.6	5.7	-2 to -4
Poultry	-1.0	7.5	-1.7	-7 to -10
Fish and seafood	4.9	9.2	10.7	8 to 12
Eggs	-16.6	6.9	-4.9	1 to 3
Dairy products	1.9	0.2	2.4	-1 to 2
Fats and oils	2.2	-2.2	1.7	1 to 3
Fruits and vegetables	2.6	0.9	7.2	0 to 2
Fresh fruits	10.1	2.1	9.7	1 to 3
Fresh vegetables	-4.3	4.0	9.3	-2 to 2
Processed fruits and vegetables	2.6	-1.6	3.5	1 to 3
Sugar and sweets	2.5	3.2	1.9	1 to 3
Cereals and bakery products	3.8	2.8	3.7	3 to 5
Nonalcoholic beverages	2.0	5.9	-2.5	2 to 4
Other prepared foods	3.3	2.6	4.4	3 to 5

Source of historical data: Bureau of Labor Statistics, U.S. Department of Labor.
Forecasts: Economic Research Service, U.S. Department of Agriculture.

Market Basket Statistics

The Market Basket Statistics represent the retail cost, the farm value, and the farm to retail price spread for a fixed market basket of domestically produced farm foods. The farm value of food and the farm to retail price spread help us understand the underlying causes of food price changes. The farm value of food accounts for about 30 percent of the retail cost and depicts that part of the consumer food dollar which goes to the farmer. The farm-to-retail price spread represents that part of the consumer food dollar which goes for processing and distributing foods from the farm gate through the retail store.

The retail cost of the market basket is expected to increase 4.5 percent for 1987. This rate of increase is greater than that of the CPI for food, but the market basket does not include nonalcoholic beverages, specifically coffee. Coffee prices decreased considerably over the year. Contributing to the market basket increase was a 2.9 percent increase in the farm value, and 5.7 percent increase in the farm-to-retail price spread.

The 2.9 percent rise in the farm value of food came from higher farm prices for beef, pork, and fresh fruits and vegetables. Rises in the farm value of these commodities more than offset lower farm values for poultry, eggs, cereal and bakery products, and fats and oils.

The farm-to-retail price spread is rising 5.7 percent this year. The spread accounts for the costs of processing and distributing foods which we call marketing costs. The major inputs are labor, packaging, transportation, and energy and account for 85 percent of all marketing costs. Our marketing cost index, which measures changes in prices of inputs, increased about 2 percent. Another reason for the rise in the spread is an increase in input use. The number of workers in the food industry has increased about 4 percent this year and would account for a large share of the rise in the farm-to-retail price spread.

In 1988, we expect the farm value of food to decrease. Most of the decrease will come from lower farm prices for poultry, pork, and fresh fruits. The farm value of other food categories will not likely increase enough to offset the drop in pork, poultry, and fresh fruits.

Percent Changes in Market Basket Statistics

	1985	1986	1987	1988
			---Forecast---	
Retail cost	1.1	2.2	4.5	2 to 4
Farm-to-retail spread	5.2	3.7	5.7	4 to 6
Farm value	-6.8	-1.3	2.9	-2 to -4

Source: Economic Research Service, U.S. Department of Agriculture.

Consumer Demand for Food

Growth in the general economy this year has been moderate, but steady. Unemployment has decreased, but per capita disposable income has risen only 0.5 percent over 1986. This is the slowest rate of increase in disposable personal income since 1982. The slow growth in income lends little if anything to strength in consumer demand, particularly for food. The outlook for 1988 is brighter. Economic growth is expected to continue at a modest rate. Unemployment is not likely to increase, and disposable personal income will increase at a slightly stronger rate. Still, consumer demand for food in 1988 is not likely to strengthen as a result of increased income.

Summary

The CPI for food in 1988 will increase at a slower rate than it did in 1987. Lower prices for pork and poultry along with larger supplies will keep beef prices from rising even though beef supplies will decline. The lower total meat and poultry prices are the primary cause of the expected smaller increase in the food CPI. Lower farm prices will help to dampen food price increases at retail. In contrast, marketing costs will increase at about the same rate as the general rate of inflation, having a strengthening effect on food prices. Consumer demand will be steady, and will not affect food prices. Retail food prices will rise 2 to 4 percent in 1988 and currently, I expect the rise to be in the lower end of the forecast range.

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RESEARCH AND THE COMPETITIVE MARKETING EDGE

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There is an urgent need for the United States to regain its competitive edge in international commerce. Today, imports exceed exports by a wide margin. Trade in agricultural commodities is well below the peak levels of a decade ago. We can improve our competitive status through research, but there are no quick fixes.

The road to prosperity lies in giving consumers--both here and abroad--what they want and need. We can accomplish this through a combination of truly innovative research and aggressive salesmanship. Our research program must be of sufficient scope to encompass both high-risk, long-term projects as well as the shorter term projects that can pay off quickly. We have to plan for both.

How Can Agricultural Research Help U.S. Farmers Become More Efficient?

The first order of business in improving our ability to compete effectively in world markets is to improve the domestic farm economy. The way to do that is to improve production efficiency. To this end, the Agricultural Research Service is looking for alternatives to high-input farming. Research is giving farmers a competitive edge by developing the means that farmers can use to lower their production costs.

For example, our research has made impressive strides in integrated pest management techniques, in which biological controls on weeds and insects complement chemical use. Biocontrols may be cheaper than chemical controls and environmentally safer, and the target pests usually do not develop resistance. Even when they do, the resistance develops much more slowly. A recent ARS project, for example, used biotechnology techniques to transfer genes from a wild potato into a commercial species. The result was a potato that not only resists but actually repels the Colorado potato beetle, a voracious pest that costs potato growers more than \$100 million annually.

Research has also improved disease resistance and the efficiency of weight gain in livestock. For example, ARS scientists recently developed a successful experimental vaccine for bovine respiratory disease, an illness that affects up to 80 percent of feedlot calves. This disease now costs the cattle industry some \$500 million annually.

Research has revolutionized poultry growing by helping the industry control disease, improve hatching rates, promote rapid weight gain, and breed birds with lower fat. One recent ARS project, for example, found that injecting turkey eggs with the vitamin biotin improved the hatching rate by three to four percent. This may not seem like a major increase, but it could mean millions of dollars to the turkey industry.

Other research is helping improve irrigation efficiencies, which can save the farmer money, reduce withdrawals of ground water, and prevent related environmental problems such as salinization or the accumulation of toxic elements. An example in recent ARS research is a computer simulation model that can evaluate the effects of different management practices in semiarid agriculture, such as changing the spacing between rows.

In November, ARS opened a new facility that could open important doors in our knowledge of plant science. The Plant Gene Expression Center in Albany, California, is a joint project of ARS, the University of California, and the California Agricultural Experiment Station. One scientist at the Center is already working on the key to genetic control of senescence, the softening and browning of fruit. Controlling senescence could extend the shelf life of produce for days. Obviously, this development would be a significant boost to the industry and to the export trade.

Clearly, the research now going on has potential for helping improve our farm economy. But research alone is not the answer.

Why the Decline in U.S. Agricultural Exports?

Ten years ago, most experts predicted almost unlimited expansion in exports of American farm commodities. But the intervening years saw not expansion in exports but decline. Why did this happen?

One factor, obviously, was the strengthening of the dollar that occurred during the early 1980's. This made our competitors' goods less expensive, relative to ours, and therefore more attractive. The recent weakening of the dollar should help bolster our exports temporarily, but for several reasons we cannot expect exports to reach their former levels.

There is an understandable desire on the part of most nations to seek self-sufficiency in food production. For most governments, the ability to produce is essential to national security. And in the past 10 to 15 years, many governments have successfully and dramatically improved their production capacity. The Green Revolution and other recent technological advances have turned nations that used to be food importers into food exporters, at least in some commodities.

Furthermore, countries that have achieved self-sufficiency in food production want to retain that capability. One way to do that is through imposition of subsidies that support the price of exported goods and encourage farmers to continue producing. The inevitable results, however, are overproduction, surpluses, and depressed prices.

What Directions Should Research Take?

Is it possible, given these circumstances, to improve the competitive position of American farm products in the world marketplace? I submit that it is, and that research has a big part to play. I will suggest four approaches: Improving quality, developing new crops, developing new uses for existing crops, and finding "niche" markets.

First, we have to be more conscious of quality considerations--both in developing excellent products and in maintaining that quality in transit. The first thing to remember is that quality is not an absolute. It varies according to consumer tastes and desires. Regarding foreign markets, it is unwise for us to develop products or grow crops we intend to market overseas without taking into account the demands of the marketplace. Japan, for example, has stricter requirements on pesticide residues, and if we do not take those requirements into account, we have effectively shut ourselves out of that market. We need to pay more attention to the individual requirements of each foreign market.

Second, some potential exists for developing new crops. However, this is not the basket into which we want to put very many of our eggs. Few plants have commercial potential that we do not now know about, although occasionally we do discover new commercial uses for a plant.

Kenaf, for example, is a fast-growing plant that also happens to be a suitable source of pulp for paper. More than 80,000 copies of a major newspaper were printed on kenaf newsprint last summer, and the paper was found to be competitive with conventional newsprint in both cost and quality. Now, a commercial mill for processing kenaf pulp into paper is being built and is expected to be operational within three years.

Third, we have had notable success in developing new uses for traditional crops. One of these has the unlikely name of super slurper, a cornstarch material that can absorb more than a thousand times its weight in water. ARS scientists developed and patented super slurper more than 10 years ago. Now, companies continue to find new uses for it in making a variety of commercial products, including fuel filters, disposable diapers, cold packs, and others.

And fourth, we are seeking market niches in which our products can compete effectively. In the past, the United States scorned markets for less than millions or even billions of metric tons of a commodity. Now that we face serious competition in international trade, we need to re-evaluate our attitudes toward those smaller markets. There is potential in some of these small markets for American products, and their cumulative impact can be significant.

For example, an ARS marketing laboratory recently test-shipped two small watermelons to European markets. The melons, which were developed by the University of Florida, weigh no more than 12 pounds and are sweeter, firmer, and crisper than other "icebox" types. Every single importer who saw them liked them, and if more had been available we could have sold them. Extension agents in Florida are now encouraging growers to produce more of these melons for domestic and foreign markets.

Taken together, these four approaches could significantly improve our standing in international markets. But they hinge on the active involvement of not only government research agencies but also private businesses.

What is Industry's Role in Technology Development and Transfer?

Agricultural research in the United States is a shared responsibility. It rests primarily with the Agricultural Research Service at the federal level, with the Land-Grant universities and state experiment stations at the state level, and with industry. When this research partnership works well, it is unparalleled in its ability to develop innovative products and processes.

This partnership has not always been as effective as it could be. Foreign visitors to American labs, in fact, often see the commercial potential in scientific discoveries before American companies do. The upshot is that foreign business interests often take first advantage of American technology. These foreign firms recognize that our technology is an important international resource.

Technology is far easier to glean than to grow. How can we transfer more of that technology to American firms? I am not talking about trade barriers here but about ways for this country to develop and protect its intellectual property.

We have two new tools to help us: Public Law 99-502, the Technology Transfer Act of 1986, and the subsequent Executive Order 12591, signed by President Reagan on April 10, 1987. Both require federal agencies to work with industry to share information that can lead quickly to new commercial products. Even though we in ARS have been doing this for years, we welcome the legislation. It underscores the commitment of the entire federal research community to effective technology transfer, and it helps communicate to industry a sense of the urgency we feel.

In framing the Technology Transfer Act, Congress recognized that one-sixth of the Nation's resources for research and development are in federal laboratories. There is, however, a widespread perception that federal research results are rarely commercialized. This perception is not true of ARS research, but we do recognize that we can improve our record. There is a further perception that the United States is losing out in the international technology race, and to some degree this is true.

The shortcomings that do exist in the ability of federal research agencies and private industry to develop new technology is not the result of a shortage of scientific excellence. American scientists win more than their share of Nobel Prizes and other honors. Rather, public research agencies at times have failed to keep industry current on what they were doing. At the same time, industry has failed to make itself aware of the vast resources that exist under its very nose. What we have here is a failure to communicate.

Here are three examples of cooperative research and development agreements that ARS has recently entered into.

- * In the first, a commercial firm will produce a better bedding soil by developing ARS technology on biocontrol of fungal diseases of plants.

- * In the second, ARS and a commercial firm will work together to prepare and evaluate cereal-encapsulated pesticides to improve pest control and reduce leaching of pesticides into ground water.

- * And in the third, ARS and a commercial firm will jointly develop a vaccine for coccidiosis, a serious disease of poultry, to be injected into unhatched eggs using a technique developed by ARS scientists.

Inviting industry to be partners, however, may not always be enough. There are times when we need to take a more aggressive stance. The Technology Transfer Act places heavy emphasis on reaching out to commercial firms to familiarize them with our science and technology and to jointly pursue opportunities for cooperative research. It makes technology transfer a responsibility of every scientist in every laboratory.

The Department of Agriculture has a rich heritage of both undertaking quality research and producing discoveries that have solved major problems for agriculture, opened the door for new products, or revolutionized farming practices. ARS scientists take pride in seeing their research made complete through controlled diseases, more efficient production practices, and new products.

We will make full use of the authority provided by the Technology Transfer Act and to strengthen and improve ARS technology transfer efforts. Already, we are accelerating the process for patent screening, decision, and application. We have also awarded exclusive patent licenses to commercial firms that agree to develop products from such inventions as biodegradable plastic from corn and a new kind of boll weevil trap.

Beyond this, ARS has begun a massive, nationwide outreach effort to let industry know what we are doing. Not coincidentally, this effort will also help us keep in touch with the needs of industry--and by extension, with the needs of farmers and food processors.

- * Last spring, we invited leaders from more than 100 agricultural businesses and organizations to meet with us to discuss ways to improve working relationships.

- * This fall, we began a series of technology transfer meetings to acquaint industry with individual ARS laboratories. By 1990, we plan to have held such a meeting at every single one of the 127 ARS research locations nationwide.

- * We have begun a computerized index of ARS research. This index, called TEKTRAN, short for technology transfer, is available free of charge to interested companies. It is arranged by subject matter for easy access and contains summaries of more than 7,000 research projects.

These are all ways in which research can help American farmers, ranchers, and businesses become stronger and more competitive. Clearly, more research by itself is not the answer. We need to be sure that research is directed to the problems that most need to be solved and that we have the full partnership of industry.

As this country faces new challenges, we in ARS have the opportunity to help in meeting those challenges. Our research, effectively used, can mean more jobs and a stronger economy.

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THE TRADE ROLE OF FOOD STANDARDS AND HEALTH REGULATIONS

Kenneth Gilles

Assistant Secretary of Agriculture for Marketing and Inspection Services
U. S. Department of Agriculture

I am pleased to be here today to discuss the role that food and health standards play in international agricultural trade. The United States has long been a leader in advocating and implementing standards that bring dual benefits; in this instance, facilitation of trade and public protection.

As we look at the world agricultural community today, we are encouraged by the number of countries who have likewise adopted standards and regulations and with whom we regularly cooperate to enhance and improve the world agricultural picture. Our activities in this area, coupled with enforcement of our own strict quality and safety standards, have brought important benefits.

To suggest but a few:

- assurance of safety and quality standards for our domestic consumers.
- opening of world markets by assuring buyers that our products are safe and meet their quality standards.
- protection of domestic producers from the entry of animal and plant pests and diseases into the U.S.

Our long-term goal is harmonization of food and health standards throughout the world trade community. You might say we are trying to create a "level playing field" for agricultural traders. That's the goal of our proposals for the upcoming round of GATT talks.

As I am sure you know, the United States has put on the table, a proposal for a 10-year phaseout of all direct and indirect subsidies that affect agricultural trade and for the elimination of all barriers to imports in that 10-year period. We are also asking for an international approach to the development and application of health and sanitary regulations to assure they are harmonized, are based on scientifically verifiable needs and are not used as trade restrictions. It is the U.S. position that these actions are not mutually exclusive and that negotiations on all of them should move forward.

The proposal is consistent with our longtime goal of a market-oriented agricultural trading system. Our efforts to harmonize standards among countries illustrate the significance the United States places on the role that standards and regulations play in achieving that goal.

We see growing sensitivity worldwide, and particularly in the United States, to issues of food quality and safety. People are more concerned about nutrition; they are less tolerant of chemical residues and more familiar with microbiological and other contaminants. They want to know exactly what is in the food they eat. Moreover, food production and marketing has advanced from the green revolution's goal, to feed hungry bellies, to a goal of security, enhanced safety and quality assurance of food supplies.

Technical barriers to trade generally grow from a country's desire to protect domestic human, plant, and animal health and its farm economy. The U.S., for example, has placed a high priority on its food regulatory systems that both protect consumers and enhance sales prospects by requiring marketed products to meet high standards. USDA's meat and poultry inspection, grain inspection and grading, food grading and certification, and animal and plant health protection reassure the domestic consumer as well as our trading partners of the safety and quality of our food products.

The emergence of the global economy has served to spotlight the absence of the level playing field--the inconsistencies and contradictions which disrupt trade. Unfortunately, the trade stances of some nations--particularly in developed countries--reduce the opportunities for efficient producers to export their products. Thus, the drive to harmonize standards takes on new importance.

The reasons for variances in world standards are many. Some nations have long-established, legally-enforced regulations that they believe are ideal. These regulations may be appropriate for one country, but not so appropriate when applied to another country operating under a different system.

The nature of the legal systems and the priorities and values of individual countries also shape standards and regulations. Nonetheless, countries with different systems, different values and different needs want to be able to trade, and the world economy suffers if we cannot successfully find the common ground--no matter how narrow--that allows free flow of products.

An example of the frustration we sometimes face in finding this common ground can be seen in our negotiations with the European Economic Community on meat exports. One area of contention is the inspection requirements enforced on U.S. meat plants that want to export to the EEC. The Community contends they are justified on a veterinary and public health basis, while the United States position is that they are little more than non-tariff trade barriers. The second area of contention is the EEC proposal to ban all hormones used as growth stimulants in livestock. The net effect of such a move would be virtual elimination of U.S. meat exports to EEC countries.

Our success, in resolving these and similar disputes depends largely on our ability to bring the debate out of the arena of emotion and instincts and into a setting where objective science guides us. Political solutions couched in self-interest can be alluring, but the long-term health of the world's agricultural systems will depend on objective policies based on economic and scientific realities.

These issues illustrate the difficulties we face in harmonizing standards among trading partners with individual needs and priorities. At the same time, they illustrate the critical importance of harmonious standards in the global agricultural economy in which we now operate.

Indeed, the institutions that regulate and influence the international economy may be more important to U.S. farmers today than are U.S. institutions and commodity programs. Large monetary disturbances and large swings in currency values have an enormous influence on U.S. farmers. Also, U.S. markets in the future will be largely influenced by the ability of foreign countries to export to the United States and by policies of international traders such as the European Economic Community and Japan.

It is in this posture, then, that we go to the upcoming Uruguay Round of the GATT seeking to open the path to free trade by eliminating trade-distorting subsidies and import restrictions and by harmonizing health and sanitary regulations.

The drive to harmonize standards is not new.

Indeed, the United States has a solid record of leadership in this effort within the world trading community. I'd like to review for you some of these initiatives.

The United States is a leader in the Codex Alimentarius Commission, a world standard-setting body established a quarter century ago by the United Nations' Food and Agriculture Organization and the World Health Organization. Its purpose is to develop international food standards and guidelines in order to protect the health and economic interests of consumers and to facilitate international trade. In addition to 130 countries' representatives, the Commission also includes representation from USDA, and the U.S. Food and Drug Administration as well as other scientists, technical experts and industry officials.

The Codex Commission has benefitted governments, industry, and consumers through development of commodity standards, limits for pesticide residues, food additive guidelines, and codes of practice. Equally beneficial is the opportunity for dialogue among Commission members. Government regulators can discuss common problems and learn from each other. Scientists have the opportunity to freely share their findings. Business representatives from around the world have the opportunity to discuss their trade problems with regulators and to informally transfer technology in a noncompetitive atmosphere.

Since 1972, the United States has participated in the International Plant Protection Convention of the FAO. This pact provides for international cooperation in controlling plant pests and in preventing their spread internationally. Eighty-eight countries participate in the convention by providing phyto-sanitary certificates on agricultural commodities moving in international commerce. Billions of dollars of U.S. agricultural products are exported using this certification process.

The United States is a member of the North American Plant Protection Organization (NAPPO) which sets uniform standards for the movement of plant materials throughout the western hemisphere. Thus, market access and free trade is enhanced by the removal of any threat from plant pests to our domestic production.

The United States is one of 38 signators to the "Agreement on Technical Barriers to Trade," known as the Standards Code. A major goal of the Code is the reduction or elimination of technical trade barriers involving quality and health standards of food, plants and animals that act as disguised restrictions on international trade.

Under the U.S. Grain Standards Act, we have developed official standards for eleven grains. The standards identify and measure physical and biological properties of the grain and they serve as a common language to help producers, distributors and users in marketing. Today, almost all grain going into export is inspected and weighed, and we have tightened some of the guidelines and interpretations so that we more accurately reflect dockage in wheat and the quality of grain. For example, dockage is now reported to the nearest one-tenth of one percent rather than to the next lowest one-half percent, a significant change for large-quantity buyers.

The Federal Meat and Poultry Inspection Program has an outstanding history of consumer protection, and this consumer confidence translates into market access domestically and abroad. In fact, the purpose of the original 1890 Meat Inspection Act was to facilitate exports by assuring foreign countries of the safety and quality of our products. Today, the program inspects and certifies over two billion pounds of meat and poultry exports and inspects nearly 2.5 billion pounds of meat imports annually.

The United States and our trading partners in Central and South America have cooperative agreements for the prevention and eradication of livestock diseases. These programs obviously help our cooperators, but they also aid the United States by eliminating the possibility of diseases and pests crossing our borders. Perhaps our most significant accomplishment was the successful eight-year effort to eradicate foot and mouth disease in Mexico. We continue to monitor for this and other exotic diseases which pose a threat to our domestic stock and also have the potential to disrupt the marketing chain. Additionally, the screwworm and medfly eradication programs and the recently initiated Africanized Bee Regulated Zone are other examples of these types of agreements.

USDA's grading programs for fresh and processed agricultural products assure our trading partners that our products meet quality and other applicable standards.

At the request of foreign countries, the United States will establish preclearance programs for some commodities intended for export to the U.S. The program has obvious benefits for the U.S. by assuring the exclusion of harmful pests and diseases from this country. At the same time, the programs facilitate trade and increase the possibility that such items as Dutch tulip bulbs will appear in our markets.

Conclusion

The United States--along with many of our trading partners--recognizes the role that food standards and regulations play in public protection and confidence and thus in facilitating trade in agricultural commodities. Domestic and international trade are facilitated by this system of regulations which, while imperfect, is functioning. For the future, we will continue to push for harmonization of standards because we believe that is critical for achieving a true market-oriented farm economy.

The recently-initialed U.S./Canada trade agreement illustrates what may be possible. It calls for greater recognition by each country of the other's regulatory controls, and may well set the stage for significant changes in the regulatory intensity of products moving between the two countries. Ratification of the treaty would indeed mean that, at least in this part of the world, we are moving toward a level playing field to facilitate bilateral trade.

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MEETING THE CHALLENGE: FARM EXPORT STRATEGIES*

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...Japan's dietary culture centers on rice. Its culture also dictates that its people do not touch their food when they eat it. That caused big problems for someone like me, who was trying to sell French fries.

So I immediately rushed back to Calwell, Idaho and told my engineers to design a French fry package that had a little set of chopsticks with each one. I figured that was the only way I was going to break into that market. And believe it or not, that was the concept that I had. You know, it takes about 17 hours to get from Japan back to even Calwell, Idaho, and I believed that that was the only way out of it; that was the only way we were going to change that.

Well, one must be respectful of overseas cultures and their institutions; we have a tendency -- or I had a tendency early on in my overseas relationships -- to say, "Hey, I'm here from the United States. You've been doing this all wrong. Sure, I know you've been doing it for 7,000 years, but you're still doing it all wrong, you know, and I'm here to help you people get up-to-date."

Well, that was a big mistake. And fortunately for me, I had a great friend, a fellow by the name of Ben Fugitasan, in Japan who took me under his wing. He says, "Butch, I'm not going to let you make those mistakes."

Basically what we did in order to respect the culture and institutions but still sell our products, was to make a commercial. And the commercial, which was on the national television, used the most recognized caricature in the world today: a fellow that was selling products. As he was selling the products in front of this very recognizable store, there would seem to be a little crowd that had gathered up out in back of the viewer. And the camera was pitched on the salesman, panning the crowd a little bit, but this caricature was saying, "If you come through these doors, you'll get food -- good food. It'll be consistent, it'll be value for money spent, and it'll be prepared in a clean and healthy atmosphere. Those are the only four things we're going to sell you." We used the same principle here in the United States and built 7,000 establishments on that basis.

But, anyway, in the crowd behind the viewer -- and, of course, all of this was dubbed in the local language -- was one fellow in a black swallowtail coat,

* Based on a transcript.

a little black derby, a white shirt with a grey pinstriped tie, little grey vest, and grey pinstriped pants, and he had a little mustache. He stood about five foot six. Now this wasn't the Emperor Hirohito, but it looked remarkably like him. And he was eating a big hamburger with one hand and french fries with the other.

This year we'll sell a little over 100 million pounds of French fries to those people who would never touch food. It wasn't that we went in and said, "You know, you're doing this all wrong and so we're here to help." We respected the institutions and the culture in which they had grown up, and we made them partners. And we even changed some of our ideas, and we changed some of our products in order to fit that culture, those institutions.

Our company was the fourth to go into Turkey after the first election of Oozal. We were the fourth private American company to invest in Turkey. We now have a processing plant in Izmir, Turkey. I can throw a rock from our processing plant to a place called Ephesus, which is a cradle of civilization. And it's just amazing to see the two cultures, which one might think would have clashed, but actually have come together amazingly well.

The first and foremost thing you have to do in order to have a successful export strategy is that you've got to be committed. You can't just decide one night, say on the way back from wherever you may have been, that you have a little extra production time in your plants, or a few extra products you can make, and you ought to benefit the rest of the world by selling your products to them. You can't just pick out a few countries and go sell them.

That's not the kind of commitment that I'm talking about. And it's not the kind of commitment that the chief executive officer or the chairman of the board alone can have; it's the kind of commitment that's got to infiltrate the entire company not only from the chairman of the board, but right down to the person that's doing the quality assurance on the processing lines to make sure that those products are the best a company wants to offer around the world. If you don't have that kind of total and unabashed commitment, you probably will not be successful -- or if your success is indeed present at the beginning, it's going to be short lived.

I think the second most important thing is to know your market. You know, we've been very successful in the United States because of our entrepreneurial spirit; because the idea that comes to us over lunch can be company policy by 1:00; because of our ability to move with such strength and with such confidence and such velocity in management changes and product changes and process changes within our country's manufacturing sector.

We want to move that same way when we get overseas, but those markets may not want to move like that. And if those markets don't want to move like that, then you are on their timetable; they're not going to be on yours.

And so I say that you've got to not only have the commitment, but that you've got to know that market, and you've got to have patience in these markets, because I'm guaranteeing you you're going to need it. And in some cases you just will not believe the delays and the reasons for these delays that you go through, but it's going to happen. But that doesn't mean that it's a bad thing to get involved in. There's still great opportunity out there.

I think we in Idaho and the Pacific Northwest are exceptionally blessed because we have the capacity to produce what the rest of the world needs. You know, in Idaho we only have a million three thousand people. We have a legislature of 126: 42 senators and 84 members of the House. And that's sort of the board of directors for one million three thousand stockholders in our State. But we've got the capacity in that State to produce enough for 50 million people. And so that's our potential and that's our opportunity.

And I believe that with that kind of opportunity, with that kind of commitment that we have, that we can help in terms of getting other companies within our State, not only my company, but other companies within our State to move forward into these overseas markets. But it's going to take not only that company's commitment, but it's also going to take some help from the government. And let me tell you why. Our company invested \$300,000 in the first year. There aren't a whole lot of companies that can take \$300,000 out of their operating capital or borrow \$300,000 and anticipate profits which return that \$300,000 on a hope and a bet, or a promise that they may succeed overseas.

So it's going to take a combined effort of the Department of Commerce, the Department of Agriculture, and the States. I think it's going to take a combined effort, and establishment of an office. Twenty-eight States of the United States now have offices in Japan. If you want to buy something from Indiana, you walk down to Nishiwan Square and you'll find the Indiana office there. And you can buy whatever they happen to sell, whatever service that they happen to offer to their international markets.

To build exports, it takes the private sector -- and the private sector has to have the commitment, the market intelligence, and most importantly, a community of effort in the private sector and government service.

You also may have to have a unique strategy of escape. You may say to yourself, where do I go to surrender? How do I get myself back out of whatever I have started in this other country, if what I started isn't making me a profit?

The way you get into these markets is that you go in directly -- you go in and sell it yourself. I go up and hussle -- I get myself a bag of French fries and I go up and down the street trying to hussle every little cooker that happens to be cooking in the restaurant. I go to one of these companies and I say, "Listen, you're already in the food distribution business," as an indirect entry into the market. I can go directly as J.R. Simplot Company or I can go indirectly through the Ben Fugitasan Corporation of Japan.

And we have chosen, by and large, to go indirectly. The reason for that is because we're much more sensitive to the habits and institutions that are present in that country. And we also have within our whole system a method to successfully and respectfully exit from a country if we find that we can't be successful and make a profit there.

Along with the strategy that you're going into these other markets and introducing your products, you also have to have a compatible strategy that says, if we fail, how do we leave this market without leaving the misunderstanding or leaving the

impression that all American companies just come in and if their carpetbagging, quote unquote, doesn't work, then they just pick up and leave? Because what probably I have faced more than the difficulty in my inability to understand and be totally sensitive to the institutions and the cultures of these other countries has been all this: "And there was an American company here before and they tried that and it didn't work, and they left us with lots of bills and they left us with lots of problems."

As we've already got an image problem in some of these countries, I'm saying that you should do yourself a favor for the future, because what may not work in 1988 may well work in 1990. Your product just may not be ready for international consumption, or you may not be ready for international marketing. But given the benefits of timing, given the blessings, the opportunities that we have, I would say that our total scope for what we have to offer in the international marketplace from -- not only from Idaho, but from the entire Nation -- is indeed large and yet undelivered and unpioneered in many ways.

I thank you very much for your time this morning, and I'll appreciate the opportunity to answer your questions later. Thank you.

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SUCCESSFULLY SELLING ABROAD: THE AGRICULTURAL DEVELOPMENT PROGRAM

Alan R. Middaugh
Chairman, U.S. Agricultural Export Development Council

Since 1954, a remarkable partnership between government and the private sector has developed to improve overseas markets for U.S. agricultural products. The Government partner is the U.S. Department of Agriculture's Foreign Agricultural Service (FAS); the private sector partners are the organizations, or "cooperators" that develop and implement programs to improve demand in 130 countries. The partnership makes it possible for each to accomplish what neither could do alone.

FAS provides a helping hand to U.S. agricultural exporters to cut through regulations, trade barriers, and governmental rules that can hamper sales. The cooperators provide the private expertise and spirit of enterprise that is equally important to the successful marketing of U.S. farm products. Financing for the partnership comes from funds appropriated to FAS by Congress, the cooperators' own funds--much of it donated by farmers--and from foreign businesses and government agencies.

Successful market development is tailored to a particular product and a specific country. Cooperators identify new market opportunities and introduce new products and processes designed to take advantage of the opportunities. To expand the use of the product, cooperators work with governments to remove trade and technical barriers and increase consumer

awareness. To maintain higher level of use, both partners continue to service customers and monitor competition that may arise.

These efforts have helped improve the lives of people here and abroad. Many more people are eating more meat or poultry than would have been the case if no market development programs were in effect. Many have more money to spend on developing their domestic economies, thanks to the innovative processes introduced by the cooperator program. This private-public partnership has saved many lives, improved countless more, and made friends for American farmers.

And many U.S. agricultural industries have found profitable overseas markets that would have been closed to them without the cooperator program's continuous efforts to remove trade restrictions.

With competition expanding in the face of slower world market growth, the cooperator program is more important than ever if the U.S. it to maintain, let alone expand, the agricultural exports on which its farm economy has become so dependent. The jobs, economic growth and prosperity that the cooperator program brings to foreign countries is matched by the growth it contributes to agriculture here at home.

While the U.S. continues to face annual triple-digit trade deficits, a consistently positive U.S. agricultural trade surplus is crucial to stemming economic losses--and market development is more important than ever in guaranteeing continuation of that surplus.

Market development is an investment of time, money and expertise in a safer, more prosperous world for American farmers, foreign consumers and a lot of other people who rely on the food chain that links the two.

In July 1984 a public ceremony was held at the White House commemorating the 30th anniversary of Public Law (P.L.) 480, which has come to be

known as the "Food For Peace Program." The ceremony was fitting tribute to a program which for years has been the world's largest food aid program.

Another important program was authorized by the same law--the unique market development program for U.S. agricultural products, which brings the public and the private sectors together in a joint effort to expand and maintain U.S. agricultural exports. The obvious successes of this effort are little known by those outside the group which carries on the programs.

The Cooperator Foreign Market Development

Program:

As a part of Public Law 480, the Congress authorized up to five percent of foreign currency, generated by sales of U.S. products for foreign currency, to be used to develop markets for U.S. farm products. After several years, funding for the market development program was shifted to the normal appropriations process, where it remains today.

The program began in 1955 when the Foreign Agricultural Service (FAS) of the United States Department of Agriculture (USDA) signed an agreement with Cotton Council International to conduct foreign market development work on behalf of the U.S. cotton industry. Since that time, a program has developed which now involves some 60 cooperators working in over 130 countries around the world. This market development work is financed jointly by the private sector in the United States and by the private sector or governments in many of the foreign countries in which the program operates, and by appropriated funds administered by the Foreign Agricultural Service of the USDA. In fiscal year 1986, these three sources provided \$120 million for market development activities; each provided about one-third of the total.

The Export Enhancement Program:

The Food Security Act of 1985 directs the U.S. Department of Agriculture (USDA) to use Commodity Credit Corporation (CCC) stocks acquired under price support programs for an Export Enhancement Program (EEP) to improve the competitive position of U.S. farm products in export markets.

Although the concept is not new, until the 1985 Bill the specific requirement for a minimum usage of CCC stocks generally had never been included in previous authorizations. \$1.5 billion is available in FY 1987, based on the market value of the commodities.

The EEP is designed to overcome export subsidies and other unfair export pricing mechanisms that cause U.S. commodities to be uncompetitive in world markets. CCC stocks are made available through the issuance of certificates that can be redeemed for CCC stocks. In most cases, exporters negotiate a sale based on a proposed level of additional supplies of commodities from CCC stocks. If USDA accepts the proposal, certificates are issued and the commodity made available moves into the export market (or a like quantity from other than CCC stocks).

The program has been especially effective for moving wheat flour and barley, as well as dairy cattle and frozen poultry.

The Targeted Export Assistance Program:

The Food Security Act of 1985, with a decided export orientation, provides for a number of new initiatives to support export expansion. An important initiative in support of expanding agricultural exports is the Targeted Export Assistance (TEA) program.

The TEA program has been a welcome complement to the Cooperator program

by permitting capital intensive campaigns for commodities which have been particularly damaged by unfair foreign trade practices that wouldn't otherwise have been possible in the Cooperator program. TEA also has spurred many organizations representing an array of agricultural commodities with exporting interests to actively participate in market development activities.

TEA used Commodity Credit Corporation (CCC) resources to counter or offset the effects of unfair foreign trade practices that have restricted U.S. farm exports. Examples of such practices include export subsidies and import quotas. Congress initially proposed an annual budget of \$325 million but eventually approved \$110 million for each of the fiscal years 1986-1988 and \$325 million in each of the fiscal years 1989 and 1990.

The Foreign Agricultural Service (FAS), responsible for administering the TEA program, has developed program guidelines modeled largely on those governing the traditional Cooperator program.

TEA guidelines provide for both broad, commodity-based generic promotion primarily with non-profit U.S. agricultural trade associations and branded product promotion. The latter is accomplished either through the associations or directly with private U.S. firms identified in the guidelines as TEA/EIP (Targeted Export Assistance/Export Incentive Program).

Who Are the Cooperators

A list of the cooperators shows amazing diversity, representing such widely different interests as the Florida Department of Citrus, the Mink Breeders, U.S. Feed Grains Council, and the National Forest Products Association.

These organizations have several things in common. They are all private, non-profit organizations, organized to promote the interests of the products or commodities they represent. Some are organized solely for the purpose of export market development.

The funding of the organizations is as diverse as the products they represent and the programs they carry out. Some state organizations are funded either through producer assessments or general revenues. In many states check-off systems assess producers modest amounts at the time they market their crop. Some of the organizations are supported by voluntary contributions from private businesses or in the marketing of farm products. Thus, except for the few official state groups involved, most of the funds used to support these organizations comes either from producers or related businesses which market agricultural products.

It should be noted that most of the products represented are generic in nature.

This means that U.S. Wheat Associates, for instance, works to expand the exports of any and all types of wheat from the United States, without regard to state origin, class of wheat, or exporting firm. Indeed, a significant proportion of U.S. wheat exports are sold and handled by multinational firms, many of which have extensive export facilities in the United States.

It has been estimated that the cooperator groups represent in their activities most of the 2.4 million agricultural producers, some 2000 forest products companies, 1500 U.S. farmer cooperatives, and more than 8700 processors and handlers of U.S. farm products. These individuals and groups have one thing in common--they are willing to invest their own money, in the form of voluntary contributions, assessments, and marketing fees, to support

organized efforts to expand the export markets for agricultural products.

Who Do Cooperators Work With:

Agricultural trade is not the same as trade in most non-farm products. One of the major differences is the heavy involvement of government or semi-government organizations in the importation of food. It has been estimated that as much as 90 percent of all wheat is imported by countries where some type of government buying agency has control of imports. While this is to be expected in centrally planned economies, such as the USSR or China, it is also true of Japan, Mexico, and Brazil, to name a few. In the case of feed grains, some 60-70 percent of imports are handled by government agencies or semi-official groups which have monopoly control over that function. These state agencies much prefer to deal with a single representative, such as a cooperator, to carry out certain functions, rather than with a large number of individual firms.

Agricultural imports also are subject to a variety of controls and regulations regarding the health and safety of the products' consumers, and which vary substantially from country to country. Thus, the exporter is required to deal with a maze of government agencies which write and interpret various rules governing the importation and sale of food products. And, for some consumer-ready products, there is the usual marketing challenge of convincing consumers that U.S.-produced products such as fresh fruits, wines, canned products, and some processed meats, are desirable.

Thus, market development for agricultural products is a highly complex activity, often involving several government agencies in the importing country. Even centrally planned economies usually involve dealing with the firm (or organization) which is the product user, either as an intermediary

to a government agency or as a marketing agency to consumers. And, in some cases, consumer education programs are needed to acquaint consumers with new products or products of different quality than they have consumed before.

How Market Development Works:

Successful market development begins with a recognition of the general relationship between economic growth, income level, and patterns of food consumption. In the poorest countries the population lives mainly on calories obtained largely from starchy grains, roots, and tubers. Food and fiber consumption is a matter of survival, not of enjoyment or convenience. As incomes increase, there is a shift toward consumption of more calories and fibers, more caloric intake from higher quality food grains, an increase in protein from plant or animal sources or both, and an increase in consumption of fruit and vegetables.

As personal wealth grows, there follows increased consumption of protein from meat, fish, or fowl, more consumption of canned and preserved products, and a general trend toward consumption for enjoyment as well as nutrition. Market development essentially involves speeding this process and encouraging the use of a multitude of U.S. products, as diets expand and change.

Market development involves several distinct tasks:

1. Identification of market opportunities.
2. Introduction of new products and processes:
 - a. Dealing with intermediate processors, technical assistance, and management.
 - b. Gaining consumer acceptance.

3. Expanding the market:

- a. Consumer advertising.
- b. Removing trade barriers.
- c. Removing technical barriers.

4. Servicing the trade:

- a. Dealing with customers' special needs.
- b. Monitoring the competition.

Identifying Market Opportunities:

Market development cooperators are constantly involved in the identification of market opportunities in different countries. They send staff, delegations of members, and technical experts to judge the market situation in individual countries, to examine current technology and business practices, to estimate market demand, and to learn about the laws and regulations governing trade of the products of interest.

Introducing New Products and Processes:

We are a nation composed of families with widely differing ethnic backgrounds, but many Americans are not aware that in much of the world several types of food commonly available here are unknown. In many countries food consumption habits are limited by centuries of dependence upon locally grown products, tradition, and lack of knowledge of the preparation and use of many kinds of foods. One of the tasks of market development is to expose foreign consumers to new types of foods, to explain how these foods can be used to expand, supplement and upgrade traditional diets, and to increase consumer awareness of the value and pleasure of new products.

Expanding Consumer Demand:

Market development activities for these bulk commodities involve relatively little direct consumer activities, but gaining direct consumer acceptance is a major feature in developing markets for many other U.S. farm exports. This is especially true for the so-called specialty crops--products such as avocados, fresh fruit, wine, and canned or processed products such as canned fruit, almonds, and raisins.

Brand name promotion in the United States is usually carried out for the purpose of gaining market share in a highly competitive market, but in foreign markets there often is a twofold task: First, winning product recognition and acceptance; and second, gaining market share where competitive products exist.

Removing Trade Barriers and Technical

Problems in Trade:

Agricultural products, more than almost any other product, are subject to government intervention around the world. In centrally planned economies, all the import functions are carried out by state agencies of one type or another; most of the processors and marketing agencies of farm products are state-related. What is not generally appreciated is the pervasive government intervention in agricultural trade matters in market economies.

Two reasons exist for these interventions. Many countries deliberately attempt to regulate the flow of agricultural imports in order to maintain a stable internal price level, usually to protect their domestic producers from competition by lower-priced imports. These regulations include

tariffs, quotas, minimum import prices, mixing regulations, and other devices.

Second, most countries have another set of rules which are designed to protect the health and safety of consumers. These include labeling requirements, assuring the absence of organisms which might be injurious to human health, avoidance of the use of certain chemicals in the production and marketing process, and special slaughter methods for poultry and livestock. A closely related set of regulations are designed to prevent the transmission of plant and animal diseases across national boundaries and, thus, require certification that the producing country is free of certain insects, diseases, or viruses which can be transmitted by the product in raw or semi-processed form. While these health-related concerns are legitimate, they can be and often are used as barriers to reduce or prohibit agricultural trade.

Both trade barriers and health and safety regulations are established and are the subject of negotiations by governments. However, since these trade barriers are vital in the matter of market access, they become extremely crucial to the success of the various cooperators group.

The U.S. Meat Export Federation (MEF) has been active in removing the trade sanitary requirements which hamper meat trade. The MEF was instrumental in the exemption of U.S. exports from the United Kingdom's "Clawback Tax," imposed upon meat products exported out of the U.K. Since many U.S. meat exports to the U.K. are re-exported, the exemption provides a considerable saving to U.S. exporters. The MEF also works closely with the Livestock Industry Promotion Corporation (LIPC) of Japan, which directly controls 90 percent of the beef imported into Japan, and specifies the beef cuts allowed to enter. Working for increased flexibility in LIPC rules

could substantially increase the value of U.S. beef exports to Japan under their quota system.

Agricultural Exports and the National Interest:

Many familiar with the healthy balance-of-payments surplus generated by our agricultural trade are surprised to learn that this is a fairly recent situation. Apart from the World War II years, the United States has had a trade deficit in agriculture from 1920 until 1956. The agricultural trade surplus only amounted to \$1.0 billion to \$2.9 billion during the period 1960-1972, and total exports never exceeded \$10 billion annually.

The favorable position of total agricultural exports of \$35-\$40 billion annually and the agricultural trade surplus of \$15-\$20 billion per year have coincided with the expansion of foreign market development programs for agricultural products. The ability of the U.S. agricultural industry to generate a favorable trade balance year after year, when the overall trade balance for the economy has been so unfavorable, has been a significant factor generating income and employment in the U.S. economy.

Thus, it is clear that maintaining and expanding agricultural exports is of major importance to the U.S. economy. At a time when the U.S. economy needs additional employment and export growth, it makes sense to build upon the already successful export market development programs of the agricultural industry.

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THE STATUS OF U.S. TRADE NEGOTIATIONS*

Clayton Yeutter
U.S. Trade Representative

As always, it's great to be back here at USDA. I don't get as many opportunities to stand on this stage, Peter, as I did a decade ago and it always feels good to come back. There's a tinge of nostalgia there each time I make this return trip.

And I want all of you who have special interest in agriculture to know how much I appreciate the great working relationship that I've had all along during this, my tenure as USTR with both Peter and Dick Lyng and, for that matter, everybody else here at USDA. It's been very rewarding and very productive, and I hope will continue to be such for the remainder of the Reagan tenure.

Thanks, too, Peter, for accommodating my entry on your program. I was originally planning to be in Europe this week and I had indicated that I would not be able to participate in the Outlook Conference, and then we changed my schedule around and I was able to come back from Europe, so we added this segment to the program. It has to be fairly tight because I know you've got a major panel coming up at 11:00, and so that I've got to try to cover quite a bit of ground in a few minutes. I was hoping you would have a chance for some questions and answers with me, but we're just not going to have time. So I'll cover as much substantive territory as I can in the next 20 minutes or so.

So let me start with some current issues. There are lots of things happening, including discussion of the so-called GATT-12 that's underway in Geneva right now. As some of you know, this is a case involving processed agricultural products in which we, the United States, took a complaint to the GATT against the import quota programs of Japan; that complaint was filed about a year ago this time. The GATT dispute settlement mechanism worked in a rather timely fashion for a change.

The panel did a superb job and filed its panel report on these quota problems several weeks ago. That report, under the rules of the GATT, was available only to the two contracting parties affected, meaning Japan and the United States, for a certain period of time. Then it was made available to the other contracting parties, and will now be made public soon. Some of you may have already seen excerpts of what is included.

The decision of the panel was a heartwarming one from the standpoint of the United States. These are quota programs that have been in effect in Japan since 1963. We've been telling our Japanese friends since 1963 that we believe those programs

* Based on a transcript.

to be GATT-illegal. The only mistake that the United States made in this issue was that we should have filed a GATT case 20 years ago instead of a year ago because our Japanese friends were able to use these import quota restrictions for 24 years now without having to alter them.

The complaint involved 10 categories of processed agricultural products. These are everything from pineapple juice and grapefruit juice to peanuts and processed dairy products and processed beef products, corn beef and a lot of other things. The decision was that on the 12 items, two could be brought into GATT compatibility with increases in the quota programs in Japan. The other 10 were found by the GATT panel to be illegal or inconsistent with the GATT, which means that they should never have been placed into effect, and they should be stricken from the face of the earth, in essence.

It was a major win for the United States in the GATT dispute settlement process. That report is before the GATT Council or the annual meeting of the GATT contracting parties at this very moment, and a decision will be made probably within the next hour or so, maybe as we stand here, as to whether that panel report will be accepted for adoption or rejected. As you know, the GATT operates on a consensus basis, which means that any one country can block the adoption of a panel report.

Indications of just a few minutes ago were that the government of Japan would probably choose to block the adoption. Japan has asked for a postponement until February. I have conferred with our Geneva delegation, and unless they have particular reason to do otherwise, we will not support a postponement, and ask that the issue be brought to a vote here in the next few minutes or so. If it is brought to a vote, my belief is, based upon conversations with the government of Japan, is that its delegation will be instructed to block adoption of that panel report.

For the benefit of the members of the press who are here, we will have a statement once that decision is made in Geneva, through our office, and you'll have access to that statement just as soon as the decision in Geneva is made.

If the government of Japan does block the adoption of the report, I am sure that will provoke a significant reaction from trading partners throughout the world. It is indeed ironic that this very week -- which is the 40th anniversary of the GATT and which provided an opportunity for many of us as trade ministers to join together in Geneva to celebrate the achievements of the last 40 years and to look forward to the next 40 years of the GATT -- that a case of this magnitude, which is probably one of the most important decisions handed down the GATT many years, is likely to be blocked by one of the affected trading partners. It certainly shatters the credibility of the dispute settlement process, and it obviously brings into question the effectiveness of the GATT.

And this particular case clearly points out the need for reform of dispute settlement and some of the other GATT procedures, and it certainly lends credence to doubts of many nations about whether Japan is yet prepared to accept its international obligations in the GATT system. The representative of the Government of Japan told me a few days ago that when this case became public in Japan, a petition process was begun in the Japanese agricultural community, and that a

petition had been submitted to the government of Japan demanding that the government not liberalize its import quotas in agriculture. That petition bore 26 million signatures. I find that inexplicable in a nation that is so dependent upon international trade. What it does indicate that there are a number of people in Japan, at least 26 million, who want to have the benefits of a free and open international trading system without the responsibilities, and that is regrettable indeed.

What will be the response here in the United States? I'm sure there will be responses from both the executive and legislative branches of government. I don't want to say anything at this stage as to what our response in the executive branch will be. We'll have more to say on that subject at a later date. And the Congress, of course, can speak for itself at the proper time.

Well, leaving that subject at the moment and going on to issues of greater breadth, I'd like to make a few comments about the Uruguay Round, because that will be the most important activity any of us will engage in on the agricultural front over the next 12 months, and probably over the next 36 months, which is intended to be the tenure of the Uruguay Round. We had meetings of the trade ministers who were in Geneva this last weekend, and although nothing definitive has yet emerged because it must be done through the appropriate administrative procedures and bear the approval of all the participating nations, the expectation is that we will have a mid-term review in the Uruguay round before the end of 1988, with that review probably being held in Vancouver, Canada.

In that review, we will do a stock-taking of all 15 negotiating groups that are underway in the Uruguay Round, including agriculture, and we would hope that concrete, visible, tangible results will emerge by the end of next year in a number of those negotiating groups, including agriculture. It certainly will be a major objective of the United States to achieve definitive results in agriculture by the end of next year. Whether we will finish the entire agricultural negotiation by the end of next year is another matter. Time will tell whether we get that far or whether only a partial negotiating result will be achievable, but we'll go as far as we can, certainly, by the time of that mid-term review, and we'll try to do the same thing in all the other negotiating groups.

What do we need in that regard? Well, clearly, we will wish to generate bipartisan support for what has been proposed and what will be attempted in Geneva. I do not see this exercise as being partisan in any sense of the word. I will certainly do everything in my power, and I'm sure Secretary Lyng will as well, to keep it from becoming a partisan exercise. It shouldn't be that. What's in the interest of American agriculture, it seems to me, is in the interest of both Democrats and Republicans who are participants in American agriculture. So we'd like to keep it a bipartisan exercise, and we'll try to do that all the way through 1988, and attempt to make sure that there is strong bipartisan support for what emerges in the mid-term review; and then what ultimately emerges at the end of the day, perhaps a couple of years hence.

Any input that you in the agricultural community have to that process will be welcome at any time. We've got a major private sector advisory committee process, as you well know, but we're happy to have input from any source at any time. Susie

Early, who heads our agricultural programs in USTR is here today. She is the issue coordinator or topic coordinator for agriculture. And Dan Amstutz, whom all of you know from having been Under Secretary of Agriculture here at USDA, is our lead negotiator. We soon intend to give Dan ambassadorial rank. He'll be the only lead negotiator of an individual group that will carry ambassadorial rank in Geneva. That's an indication of the priority that we give to agriculture in these negotiations.

Dan and Susie and a lot of other people, including many folks here at USDA, will be working diligently on this issue over the coming months. There have been a lot of discussions on this subject behind the scenes in various capitals and in Geneva, so a whole lot more has been done on this subject than what immediately meets the eye. We think it's a unique opportunity to achieve major agricultural reform worldwide, and I hope we can get that done.

There are some, including some of our friends in the European Community, who feel that the United States wants to go too far too fast in this negotiation. There are perhaps some in the United States who feel that we wish to go too far too fast. There are a couple of American agricultural groups who were in Geneva last week, the same time I was, delivering that message throughout Europe. That wasn't exactly helpful to the process. I'd like to put those people behind the negotiating table for some of our negotiating opponents instead of behind our negotiating table. With those kinds of friends, I'd rather work with our enemies. But it's a free country and it's their privilege to do what they wish. If they want to torpedo what the U.S. is attempting to achieve, it's their privilege to do so, but I wish they'd have more and better sense than that.

The fact is that we must press the world to move a long way, and to move it quickly, at a time when we have a window of opportunity to do so. If we twiddle our thumbs over the next two or three years and achieve unsatisfactory results in agriculture, which has been the outcome for 40 years, we have nobody to blame but ourselves when this problem simply continues for the next 40 years and perhaps is exacerbated rather than improved. Clearly, we think that some of our negotiating partners do not wish to go far enough in the way of agricultural reform. They want marginal reform; we want something far more significant and substantive than that. And they want to go very slowly, and we think it makes little sense to go slowly because of the enormous costs that are involved. So we're going to continue to have some differences on that point. And certainly we need the support of people in the United States to move as far and as fast toward agricultural reform as we can. We happen to think that's in the best interest of American agriculture, as well as a lot of others throughout the world. If we have any self-confidence in terms of our own international competitiveness, the position that's been laid out in Geneva on behalf of the United States is clearly a sound one. If you do not believe in our international competitiveness, then the position is not a sound one. But if that is the case, then you ought to work on our international competitiveness, and correct that instead of taking the wrong positions in Geneva.

The other challenge in that negotiating process that I'll mention, since we don't have much time, is the question of short-run versus long-run measures. There are some in Geneva who would like to give a lot of concentration on short-term amelioration of some of these problems, with less attention in the long-run. We're

concerned about that because we do not want to have the negotiations in Geneva bogged down on these short-term considerations and lose or delay the chance for long-term reform, which is of much greater importance.

Well, enough on that for the moment. I'd like to say a few words about the U.S.-Canada agreement. Although agriculture is not a major part of the U.S.-Canada agreement, it certainly is a significant element of it, and we began to get some reactions from various members of the U.S. agricultural community. We did not try to deal with all agricultural issues, bilateral agricultural issues in this agreement, because we cannot do so.

A lot of the problems in the U.S.-Canada relationship, grains policy, for example, are global problems; they're multilateral problems. They have to be dealt with in the Uruguay Round. They simply cannot be dealt with appropriately in a bilateral context; it doesn't make any sense to do so. So we put aside those that are more appropriate for multilateral solutions, and tried to concentrate, in the U.S.-Canada agreement, on issues that could conceivably and feasibly be dealt with bilaterally.

And we made major progress in the wine and distilled beverage area, very significant progress, by calling for a phaseout of all tariffs, including all agricultural tariffs between the United States and Canada. We negotiated increases in poultry and egg quotas coming into Canada; negotiated the elimination of some of the transportation subsidies on Canadian agricultural products coming into the United States; worked on some particular provisions in the perishable products area that should work out well; and so on. So there are quite a number of elements of the U.S.-Canada agreement that are clearly very favorable to U.S. agriculture.

It is noteworthy that recently we've had calls from some members of Congress who have been clearly motivated by representatives of the agricultural community to complain about some aspects of the U.S.-Canada agreement. We've had some similar phone calls on non-agricultural aspects of the agreement as well, and I wanted to share with you a reaction to those because they have an incongruous element to them that needs to be countered.

What we're seeing is the observation that well, we think it's wonderful that you all accomplished a, b, c, d, and e, but we're unhappy because you didn't accomplish f, g, and h; and, therefore, we think you ought to vote against the agreement. Oh, come on now. We ought to be a little more intelligent than that. That's exactly what I feel about that.

What one must compare is the result of that exercise versus the status quo. And isn't it better to resolve problems a, b, c, d, and e than to resolve no problems in the U.S.-Canada relationship? Do you really want to throw the baby out with the bath water and say because we didn't solve g, h, and i, that we want to do away with a, b, c, d, and e? To me, that is just ludicrous. And I would hope that better thinking than that will begin to prevail within the agricultural community, and within the rest of the American political community as well.

We're not going to solve every problem that exists between the United States and Canada in a free trade arrangement. We solved a heck of a lot of them, more than have been solved in many, many, many years; and we're dedicated to continuing to solve still more. This isn't the last negotiation we're ever going to have with the government of Canada, for heaven sakes. We're going to continue to negotiate on items that were not resolved in the FTA, but we've taken it a long way. And if there's anybody in this room that doubts the efficacy of that agreement, you ought to go back and rethink that process, because it will be a phenomenal thing for both countries if it is approved by the U.S. Congress and the Canadian Parliament. It's going to be good for American agriculture and it's going to be good for the American economy as a whole.

Finally, I'll make a couple comments on the general economic situation, Peter, and then we'll have to close up. Well, first just a word on legislation. We don't have time to get into the omnibus trade bill this morning, but I did want to comment on one particular aspect of it because you all may want to have some discussions with your representatives in Congress, and particularly with representatives of the Senate Finance and the House Ways and Means Committee; and that relates to the harmonized system.

The harmonized system of tariff nomenclature, of course, is an effort to try to harmonize, and achieve more uniformity of tariff nomenclature throughout the world. This is an effort that was begun well over a decade ago. That negotiation has now been concluded worldwide, and about 50 countries, at least, are going to implement the new system on January 1. It looks as if the United States may not join the 50 or more who will do so because we simply may not get it through the legislative process. It's incorporated in the omnibus trade bill which is now clearly going to move into 1988.

We have suggested to the Congress that it extricate it from the omnibus trade bill and move it through on other legislation between now and the first of January because if it is not approved by Congress between now and the first of January, our implementation date will probably be postponed one full year, to January 1, 1989. And you all are going to pay the price because you're going to deal with a system of tariff nomenclature in the rest of the world that will be different from the system that exists here in the United States for at least one year, and that's not going to do international trade any good. It's going to cost a lot of people more money; it's going to bring about a lot of confusion in international trade; it's clearly going to hurt all of you who are engaged in international trade.

And the question is whether or not anybody does anything about it between now and the first of the year. There seemingly is some reluctance on Capitol Hill to accommodate this need for fear that somebody might do a favor for the administration. I really don't see this as doing a favor for the administration because it seems to me that it's in the interest of all Americans, the entire U.S. business community, and the U.S. Congress to do this. But that doesn't seem to be the perception of at least some members of Congress. And I hope that you'll suggest to those members of Congress that they might reappraise their position and do something for the good of the country, and not worry about whether or not they're going to do something that might be a favor for the administration.

Finally, I have some comments on the general economic situation. This merits just a minute or two because it seems to me that the United States now has some phenomenal trading opportunities, some of the best that this country has seen for many, many years. I've been saying in speeches, for several weeks now, that the United States is clearly price-competitive in thousands of products -- and we are, including in agricultural products. Now, admittedly, there are a lot of distortions in trade in agriculture due to export subsidies and a lot of other things that do not permit the market to work as it should work.

But putting all those aside for a moment as issues that we must deal with, it is nevertheless true that with existing exchange rate relationships, the United States ought to be able to export in a most satisfactory fashion for a long time to come. In volume numbers, our exports are up dramatically over a year ago. They should rise even more dramatically as the coming months unfold. And hopefully, exports will contribute, more than any single dimension, to continued economic growth in this country over the next couple of years.

If our general economic recovery continues, and I believe it will, it will probably be due primarily to the trading side, the export side, rather than to what is happening in domestic demand here within the United States. It is a very favorable economic situation. It is likely to be favorable for a long time to come. And for those of you who are involved in international trade, I hope you will plug that into your computers and into your strategic decisionmaking processes because it seems evident that we should have some outstanding opportunities, internationally, over the next several years, at least.

What is needed there now, of course, is demand outside of the United States. And our principal concentration ought to be on the question of generation of demand beyond our borders. Clearly, the announcement by the Government of Germany today of a \$13 billion program that's designed to generate some domestic demand in Germany will be helpful. If there is some additional cooperation on the monetary front, that is, the interest rate front, that could provide some additional boosts in demand in that country, and other countries around the world. Time will tell what emerges in that regard, but it does look encouraging from the standpoint of that generation of economic activity and additional import demand in other countries.

Japan is clearly following through in its commitments in this score. That's already showing up in additional domestic demand within the Government of Japan. Its international trade picture is altering in yen terms, even though it has not yet shown up in dollar terms. We're seeing a turnaround in a whole variety of ways in the international trading situation, and one that is clearly favorable to the United States and should become more favorable as the opportunities unfold.

We have to open up some markets around the world as a part of this process. Certainly that's true in Asia, where we will continue to press Japan not only on the GATT-12, but on other issues. This GATT panel decision has implications in other things in terms of the Japanese economy. We will certainly put pressure on a number of the newly industrialized countries in Asia to open up their markets to American agricultural products and other products, much more than they are today. We hope exchange rate relationship the newly industrialized countries will begin to

more accurately reflect the underlying economic fundamentals. Assistant Secretary of the Treasury David Mulford made that point here a couple of weeks ago. There'll be a lot of activity in that regard that hopefully will result in some sales opportunities for a good number of people who are represented in this room.

We'll also continue to move with vigor on unfair trade practice activities. I have to smile a bit at what is going on in the presidential campaigns right now, where everybody's pounding the table saying that -- that they're going to get tough on unfair trading practices around the world as if nothing's been happening on that in the last couple of years. Certainly that has changed dramatically, and I believe for the good in terms of our trading relationships.

It wasn't too many months ago that there were people in Japan who were telling the semiconductor industry that the United States would never apply sanctions on semiconductors. They were wrong. There were people in Brazil a few weeks ago who were telling the Brazilian firms that the United States would never apply sanctions against the Brazilian informatics policy. They were wrong, too. Hopefully that message is now being accepted throughout the world, and we will get more voluntary improvements in these relationships than has been true in the past.

Well, we've got a lot of work to do. We're out of time here now. I wish we could cover some of these issues in greater detail. But I want to stop on that last point by saying that, in my judgment, we have a lot of momentum going on the trade front; bilaterally, multilaterally, and in the macroeconomic policy sphere; all of which is going to pay dividends down the line. And you ought to be sure that you're ready for that.

I had dinner the other night with a major forest products firm official who said, "You know, we've got a problem in expanding our exports. Not because we don't want to do it, it's not because we don't see the opportunities out there; we think they're fabulous. We don't have the capacity to get there. And we've got to add to our production capacity in order to have the supply available to meet the international markets, and right now we don't have it. We're not helping you as much in the reduction of your trade deficit as we'd like because we're not tooled up."

Well, there's a firm, and maybe there's some other firms around that should have thought about that a couple of years ago, but better late than never. And for those of you represented in this room who have not yet realized the export opportunities that are likely to be available to you in the coming years, for heaven sakes, let's get tooled up for them, because, in my judgment, they're there and we ought to take advantage of them. And if we don't take advantage of them, for heaven sakes, we've got nobody to blame but ourselves for a \$170 billion trade deficit.

Thanks so much.

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MEETING THE CHALLENGE: DISTINGUISHED PANEL ON TRADE AND POLICY DIRECTIONS*

Moderator: Richard E. Lyng, Secretary of Agriculture

Panelists: Senator Rudy Boschwitz, Minnesota
Senator Patrick J. Leahy, Vermont
Representative E. Kika de la Garza, Texas
Representative Pat Roberts, Kansas

SECRETARY LYNG: We're a little delayed this morning. Both the Senate and the House are in session. There's voting going on in both houses. Senator Boschwitz has already voted in the Senate at least once this morning. Senator Leahy, Congressman de la Garza and Congressman Roberts will, we think, be joining us as we go along here.

This panel discussion is something that we've been looking forward to because we felt that we had been able to get the people who are really prime movers in agriculture in the Senate and in the House of Representatives to join us this morning. We will -- as these people come in, we'll incorporate them into our discussion, but in the meantime I would like to commence and move along with the format that we had planned. We don't want to lose this crowd, Senator. We've got a good crowd this morning.

SENATOR BOSCHWITZ: We Republicans don't always get this big a crowd, you know.

SECRETARY LYNG: No, but of course, this is the Department of Agriculture.

SENATOR BOSCHWITZ: You mean they had to come?

SECRETARY LYNG: No, I don't think any of that has gone on. They're fighting to get in.

SENATOR BOSCHWITZ: There really are still some more seats up here.

SECRETARY LYNG: I guess they're afraid we're going to take up a collection of some kind.

SENATOR BOSCHWITZ: It's a good idea.

SECRETARY LYNG: I thought that the format that we'd use this morning would be to take a few issues that are of general interest and just bandy them back and forth among the members of the panel. With Senator Boschwitz here alone, we'll give him more than the share of this time that he would ordinarily get. So, Rudy, I thought

* Based on a transcript.

maybe you and I might start talking a little bit about the Food Security Act of 1985, the farm bill. It's been in effect for almost two years. Its provisions will expire in the 1990 crop year. It has become an expensive farm bill, but it has had, I think, quite a few positive results: exports are up 18 percent, the value up 7 percent. Almost all the numbers that have come out at this Outlook Conference look pretty good, compared to what they were.

So the question then becomes, in your view, Senator, how is the 1985 farm bill working? Do you think it'll be modified in 1988? And if so, in what ways? Would you want to tangle with that one?

SENATOR BOSCHWITZ: Well, I think it's working, Dick, better than its critics said it would. You know, when it was passed, even before it had an opportunity to take effect, some of the critics of the bill were on the road and saying that it was ineffectual and was the wrong piece of legislation. And I think that those critics really have been proven wrong. And if you go out to the country, certainly, you're going to get that impression.

We call a number of elevators throughout Minnesota every week to see what prices are and to see what attitudes are, and we make changes from week to week, of course; and the attitude is pretty upbeat -- even among some who were critical at the outset. So I think that the farm bill, for a number of reasons that we can discuss, has improved agricultural outlooks.

And I don't think it's going to be changed. I think that, at least in the Senate, there is a sense that we shouldn't tinker with it too much. A recent idea, particularly with respect to the reconciliation bill, is that we need to make \$2.5 billion worth of savings in farm programs in the next two years. Some tinkering has been suggested, but I think that reason will prevail and that reason, incidentally, is my view of these matters. I think that my view or reason will prevail and that we won't do very much tinkering with it, though we clearly have to make some modest changes just to come up with the \$2.5 billion.

SECRETARY LYNG: I gather from that that you don't think any legislative change that would call for mandatory supply controls or major changes in the dairy price support program seem to be too likely?

SENATOR BOSCHWITZ: No, I don't think they're likely. When you talk about dairy, that's --

SECRETARY LYNG: I'm getting into Minnesota business there, I know.

SENATOR BOSCHWITZ: Yes. And when you talk about dairy, that's a little different consideration. It's not that I think that changes should be invoked, but the supply-demand part is of a somewhat different nature than it is in other commodities. But I don't think that major changes are going to take place. I think that the farm bill will pretty much run its course.

SECRETARY LYNG: Senator Boschwitz is well known in Minnesota for attending rural fairs in large numbers and sharing flavored milk with the people that attend it. Dairymen like him up there because he's a salesman. You might tell them a little bit about that.

SENATOR BOSCHWITZ: Well, I have taken an attitude for which some have called me eccentric. They've called me eccentric for other reasons, too, but at least in dairy they say I'm a little eccentric because I think that it's not so much a matter of overproduction as it is underconsumption. And as you know, over the years, consumption of dairy went from 740 pounds per capita all the way down to about 535, or something like that. Now it's moving up again, and this is the third year of increases, which is very heartening.

And in the event we can come up with some new uses, perhaps we'll be able to sell our way out of this. Certainly controlling supply and keeping prices as high as you can do not work particularly well. I'd like to keep the prices high as I can. I'm a politician and I have a lot of dairy farmers, and they like that. But I think the long-range outlook has to be connected with demand for the product.

So over the years I have put up a little milk house at our state fair, called Rudy's Superduper Milk House, and sold rootbeer milk and raspberry flavored milk and coffee flavored milk this year and Amaretto flavored milk, -- which went over very well -- trying to encourage the dairy industry to be somewhat more daring in their approach to marketing. Those kinds of things that I'm peddling there and have made up for the state fair and other fairs really is sold in abundance in other countries.

I keep getting messages from Taiwan and Europe and other places about how they're selling this flavored milk, and now have talked to DRINC -- Dairy Research, Incorporated, down in Chicago, and they're trying to carbonate milk and flavor milk. If we can do that, and if we can regain some of our market share where we really have been outgunned -- as you know, Dick, by every soft drink and every other type of beverage -- then perhaps we will be in a position to have a better balance in dairy; and our dairymen won't be so stressed by the downward movement of prices on an ongoing basis.

I hope, too, that we do something with some of the marketing orders. I was supposed to have dinner -- I try to have dinner once a week and spend the evening on agriculture, on one aspect or another of it, and tonight was marketing order night. I'm not quite sure if we're going to do that or try to get together with Ed Schuh, who some of you know, before he goes out to the Humphrey Institute in Minnesota, and talk about world agricultural problems with him. But some changes in marketing orders, particularly state marketing orders -- in your native state, I might say, Dick -- would be helpful in balancing out some problems in dairy.

SECRETARY LYNG: You have, on occasion, falsely accused my native state on marketing orders and --

SENATOR BOSCHWITZ: I'm supposed to be the politician.

SECRETARY LYNG: One of these nights when you want to have a dinner talking about agriculture, I'd like to host the dinner.

SENATOR BOSCHWITZ: Oh, good. And defend the practices of the Californians.

SECRETARY LYNG: Oh, yes, of course. Well I wouldn't defend them entirely, but to some extent in any case.

As it stands now, we have announced a reduction in the actual price of butter and powder and cheese, the support prices, of 8.5 percent. We were mandated to do that under the sequester provisions of Gramm-Rudman. Now, the compromise budget proposal of the congressional leadership working with the administration, they've called for a 2 percent cut in target prices and support prices, in lieu of the -- of the sequester.

What do you think about that? Have you any comments to make?

SENATOR BOSCHWITZ: Well, the reconciliation bill that we pass will have to go beyond just a 2-percent target price adjustment; it'll have to go into some other things as well if we're going to save. Two percent, as I see the figures, is about, oh, \$900, \$950 million of the \$2.5 billion, so that we have to come up with another billion and a half, another billion six. And the reduction of the target prices would actually not be a reduction inasmuch as Gramm-Rudman was sequestered last year and reduced the prices by about 4.3 percent. It would not be an actual reduction below this past year. That's got to be one element, and I'm sure it will be one element. When Senator Leahy or Kika comes, I'm sure that they will say the same thing. But other elements have to go into that.

Do you want to discuss them as well?

SECRETARY LYNG: Well, I don't want to dominate the discussion, but I know there's a great deal of interest in what the Congress is actually going to do with not just the dairy portion or the agriculture portion, but the entire problem of getting this budget under control. Christmas carols are beginning to be played around town and the Congress is going to be thinking of going home, and we really, it seems to me, have some need of some action up there before many days go by.

SENATOR BOSCHWITZ: Well, we're not known for doing things very far in advance, as you know, and the majority leader said earlier this year that we would adjourn for the year on the fourth of October. I, for one, took him seriously, or at least hopefully. And when the fourth of October approached, then he talked about early November and then Thanksgiving, and now we will do our usual by getting out just before Christmas.

Clearly, within the next few days, we will pass the bill; we will pass the budget agreement, the compromise. If you'd like, we can talk about that in more general terms as well. And we will also pass the reconciliation portion that will accompany it, that will apply to the various programs, including agriculture. One of the aspects will be the reduction of the target price. Hopefully, the 0/92 provision that I have favored will also be implemented, which will have some rather large savings, and maybe a redefinition of a person for program purposes, which will be a smaller savings. Perhaps there'll be fewer diverted acres which will result in quite a larger savings, and I know that you have in mind reducing the payment for the diverted acres. That, too, will enhance that savings. We were just chatting about the possibility, which you said had some problems, of perhaps

reducing deficiency and diversion payments somewhat further and allowing soybeans to be planted on some set-aside acres. I understand that runs into some arguments too, but everything does.

But I think that those are the ways that we should approach it. We certainly should not fool around with the loan rate because if there is a strength to the 1985 farm bill, it is that we have become competitive. You pointed out that volume has risen 18 percent, was it, and that net dollars have increased 7 percent. And a good portion of the volume increase is due to the decline in loan rates, perhaps even more than the dollar because among some of our larger customers and certainly our competitors the relationship of currencies has not changed that much.

SECRETARY LYNG: Yes. I appreciate very much your willingness to talk about these things and I apologize for getting you up here all by yourself, Senator.

SENATOR BOSCHWITZ: Listen, we don't object to that in my line of business.

SECRETARY LYNG: Well if you don't object to that, I'd like to move to another issue and then when these other gentlemen arrive, come back, perhaps, to the '85 farm bill. The speaker that preceded us on the platform was Ambassador Clayton Yeutter, who is our U.S. Trade Representative. You know him well.

SENATOR BOSCHWITZ: Yes.

SECRETARY LYNG: You and I have met with him on many occasions, and, as a matter of fact, a year ago we were together in Brussels. And you've been keeping up very well on the GATT negotiations. Maybe you could comment a little bit upon what you think might be the attitudes of the Congress on this. I've detected that there's a pretty broad general support for the administration's proposal in the GATT -- not necessarily endorsement of every word in it, but the strong position that we came out with in July has been supported pretty broadly by members of both parties. I would hope that that would be the case because it will help strengthen our hand when we meet with people from other lands. What do you think about that?

SENATOR BOSCHWITZ: Well, I agree that it has gotten some broad support. Some members of the Senate have treated your zero option in agricultural trade about the same way they treated the zero option in intermediate nuclear forces. They said it was an unachievable objective, that it wasn't realistic and that it was nice to talk about, but we weren't going to go in that direction. It may be that dealing with the Russians on nuclear weapons is somewhat easier than dealing with the Germans or some of the other agricultural ministers that we're going to have some problems with, but I think it's an objective that we have to seek.

I spoke yesterday with Aart de Zeeuw of Holland. If all Europeans had the breadth of approach that he did, I think we could take some very quick and meaningful early steps. As you know, Dick, Sen. David Boren and I have been the authors of the decoupling legislation, and this whole plan of yours is certainly akin to the decoupling legislation. I told Aart yesterday that I could understand the attitude of some of the Europeans because from an American standpoint, I think we can compete in the world market. And some of the Europeans must have a sense -- the French certainly less so than the Germans, and the English less so than the French

perhaps -- that they cannot compete on world markets and that this kind of a regime that we're suggesting is going to damage to their agricultural base. And I talked to him also about the feelings of self-sufficiency that I know the Europeans have had since World War II, although he said that they no longer have that strength of feeling. However, the Japanese felt very strongly about food self-sufficiency, thanks to memories of the period following the second World War.

I think it's a terrific goal. It's unfortunate that agricultural commodities are protected and shielded in world trade far more than industrial items. And the goal of zero option, so to speak, over a 10-year period or by the year 2000, I think, is terrific. And in the event it occurs, I think it will be not only to the benefit of world agriculture, but it would be something that would help the developing nations immeasurably and give those nations an opportunity to develop their own agriculture. To give these enormous subsidies and drive down the world market price must be very damaging to Third and Fourth World nations. I know it is. And I think that we are on the right side of every aspect of the issue in the program that you've laid out.

SECRETARY LYNG: One thing, Senator, that has happened and has absolutely pleasantly astounded me is the way the dialogue has been joined all over the world on this issue. For many years, U.S. agricultural representatives would talk to the European Community, or to the Japanese and others, and you could see no signs of any real change. There was a rigid reaction to proposals that we would make from the Department of Agriculture or from our government to the European Community to reform the Common Agricultural Policy.

There is now much more interest in doing something about the problem of surpluses, the cost of that program. And they're much more ready to listen to us today than they were even two years ago. We don't have agreement as to how you solve the problems, but you don't always have agreement in the United States as to how to solve the problem. I'm seeing a much better atmosphere for discussion than we could have ever, I think, had reason to expect.

SENATOR BOSCHWITZ: Well, it's not clear to me if this is a matter of our skillful negotiating or because we've been so influential in our remarks, or if their costs are going up to such a degree that it's really biting them. I think it's probably the latter. But I was at the Ditchley Conference, gosh, a couple of months ago now, and they sure talked a lot about decoupling. And it took me about a day to figure out that their interpretation of decoupling was not exactly what our interpretation of that would be.

To them, decoupling, particularly to the Germans again, meant that they would pay off some small farmers who constituted about half of the farmers and about 10 percent or less of the production, and that they would, in effect, give them some income support; and that was decoupling. And not making many other changes.

So I laid out to the conferees in some detail what decoupling meant and said that we wanted to have a loan rate of \$1.30 on corn and \$1.60 on wheat. That really made them tremble a little bit, I must tell you. And that we really wanted to decouple and not make planting decisions based upon programs, but rather upon economics. As a matter of fact, we would like to drive the loan rate a little

lower so that we could get near to what they call the variable cost of production. And that would, I think, really begin the trend and bring them to the table even more than they now seem willing to do.

SECRETARY LYNG: And I think they're going to come to the table with more interest and vigor than we had anticipated even six or eight months ago. I think Ambassador Yeutter feels the same way. Agriculture is on center stage in these negotiations.

SENATOR BOSCHWITZ: Well, I think that's a great difference that you and Ambassador Yeutter have made by being able to really bring agriculture to center stage in a way, at least in my experience, it never has been before.

SECRETARY LYNG: We feel very good about it. We concede that some of this is going to take time. We're hoping that during the 1988 calendar year, we can actually get some progress, particularly in agriculture and in some other areas. I'm sure that Ambassador Yeutter spoke of those here this morning.

But that begins to lead us into the possibility of thinking of not changing the 1985 farm bill in 1988. Since 1988 is an election year, it's not the year that we usually get major changes in farm bills. This bill does not expire until the crop year of 1990.

Would you like to hazard any viewpoints on what might be the outlook for the long term, tying it together with what we might assume could be accomplished in the GATT negotiations?

SENATOR BOSCHWITZ: Before I comment on that, let me ask you, what's the name of that group led by the Australians and the other non-subsidizing countries?

SECRETARY LYNG: That's the Cairns Group.

SENATOR BOSCHWITZ: The Cairns Group, yes.

SECRETARY LYNG: That's a group of countries that met at Cairns in Australia. It included a number of sizeable exporters like Argentina, Canada, Thailand, Malaysia, Indonesia, and then some other countries; Hungary is one. And they have pretty well agreed, philosophically, and even more specifically than others, with the proposal that we have made, the United States' proposal.

SENATOR BOSCHWITZ: Let me reverse the questioning here. What impact is that going to have on the Europeans? I mean, we have some allies.

SECRETARY LYNG: Oh, yes.

SENATOR BOSCHWITZ: And I think that that kind of an organized group of allies is something of a first as well; isn't it?

SECRETARY LYNG: Well, I think that's true. They have joined with us in our suggestion that we should have a world without subsidies that affect trade, either directly or indirectly. They are totally joined with us in our efforts to obtain access, get rid of trade barriers, harmonize health standards, and those things.

We have a lot of support from the contracting parties of the General Agreement on Tariffs and Trade, and we will get more. The developing countries, as you mentioned earlier, are seeing some real opportunities in this. If they don't have to compete with the subsidies of the industrialized nations, they've got a better chance of improving their economies. And we think that's good because we think they can be a major market for the U.S. and other nations' products.

SENATOR BOSCHWITZ: And no market has really developed, particularly in the Third and Fourth World, until it has developed its agriculture.

SECRETARY LYNG: That's right.

SENATOR BOSCHWITZ: Well, I think that those allies that we have made in this whole push are going to be very helpful. What impact do you think that they will have on the Europeans and the Japanese?

SECRETARY LYNG: Well, there are two different things, of course. The Japanese are very much concerned with protecting their small and antiquated agriculture. It's a very peculiar, unique situation. You have this highly industrialized, highly technologically advanced nation which is still protecting what is probably the most inefficient agricultural sector of any industrialized nation.

Some of that is true in Europe, but in addition to their protection, which is rather absolute in some things, they give an incentive to their producers to overproduce; and then subsidize those surpluses into the world market and create all kinds of problems, and have caused us, really, to join the fray with such things as our Export Enhancement Program. And the world is getting more and more chaotic so that these nations that are joining with us are making very strong pleas to both the Europeans and the Japanese that I think will have some effect.

SENATOR BOSCHWITZ: I think those kind of pleas are expected from us and expected less from the others, and they bring a force to the whole thing that I think is very useful, and I think makes the whole approach that you have taken together with Ambassador Yeutter more likely to succeed.

SECRETARY LYNG: Well, we would certainly appreciate any assistance you can give us -- you and other members of the Congress, the Senate, the House of Representatives -- in bringing a broader understanding of what we're trying to do with the people of this country and also with the people you meet with, the leaders of governments around the world.

The size of the world has gotten so much smaller, the communications are so fast now, and some of us that are not so young have trouble understanding just how much that is changing. I still find it strange to be getting long distance calls from Europe more frequently than I used to get from Washington when I lived in California. It's changed a whole lot.

SENATOR BOSCHWITZ: Are you that old?

SECRETARY LYNG: I'm that old. There can be no doubt about that, I'm that old.

SENATOR BOSCHWITZ: Well -- pardon me.

SECRETARY LYNG: Go ahead.

SENATOR BOSCHWITZ: Well, I think that I have been trying to spread the word. I took a tour of the eight or nine major land grant universities, and talked about decoupling. I see some of the people that I met out there here this morning. You know, in 1985 when Senator Boren and I brought that measure up the first time, perhaps too late in the proceedings, certainly too late to pass it, but we got 42 votes. We really have laid it on the table now so that people can start considering it again, and it is getting a good deal of attention. And soon we will make a very concerted effort to get some cosponsors and to educate our brethren in the Senate about the nature of the bill. And I think we will get some cosponsors and strengthen our position rather considerably.

As I said earlier, I think that it joins very closely with your approach and Clayton's approach to solving some of the ills of world agriculture, particularly the impact of lowering these barriers. The impact that will have on Third and Fourth World nations, I think, is important to reemphasize. Bringing the moral force to bear that is associated with the development of those economies perhaps will also be helpful to us, together with the Cairns Group. It'll be helpful in achieving the ends. I'm fairly optimistic, I must say.

SECRETARY LYNG: Good, so am I. I have word that Senator Leahy is en route. Congressman de la Garza --

SENATOR BOSCHWITZ: What's he coming for, lunch?

SECRETARY LYNG: We hope we're still here. Congressmen de la Garza and Roberts are now voting on the continuing resolution and will continue to try to join us. We hope they'll be here when they get that voting underway.

SENATOR BOSCHWITZ: That continuing resolution may keep us here past Christmas.

SECRETARY LYNG: Well, you know, it's the thing that keeps us alive. Without the continuing resolution, a big crowd in this audience would be sent home, including myself.

SENATOR BOSCHWITZ: I'll tell the President to veto it.

SECRETARY LYNG: So we have an interest in getting that legislation. There might be some merit to that.

Tell me, what do you think about the trade bill? We've been concerned about this mammoth trade bill that's passed both houses. You have a huge conference committee. Are we going to get a trade bill out of the Congress this year?

SENATOR BOSCHWITZ: No, not this year, certainly, and as you may know, Dick, I voted against the trade bill. Just as I feel about agriculture, I feel about other goods: this is not a time to impose new barriers. And, as a matter of fact, some of the barriers, particularly with respect to the textile industry, are absolutely outrageous. Those guys are pumping along at full bore; they're, I think, at 95, 98 percent of capacity; and they want to be protected. Perhaps more accurately you

could say they want to raise their prices. And we're just not going to be a part of that. I believe the President certainly will veto the trade bill, even in the form that it came out of the Senate. And it's not going to be made better by that enormous conference that's going on.

You know, the larger the conference, the larger the meeting, the less seems to get done, which was a problem with the budget. They had 19 people sitting around trying to work out the budget. Well, that's not a committee; that's kind of a gang. And the result is that didn't get it done. In meeting with the President and with the Republican leadership on several occasions during September and October, a number of us spoke to him about the budget compromise and the need to really make some courageous decisions. This was really the second opportunity in the nine years that I've been here that we could really attack the structural aspects of the deficit, and we didn't do it again; we didn't do it the first time, which was shortly after the President arrived.

And as much as I admire him, I thought that he should perhaps have been a little more tough-minded and a little more out front. I suggested he sequester the committee to get it down to about seven or eight, nine at the most; sequester them and take them up to Camp David and bang it out over the weekend, and then come out in lockstep and make some hard decisions. Because until we get at the entitlements, until we include Social Security in whatever kind of budget restraint has to be made, we're not going to get anywhere.

I pointed out that in the language of the Federal budget, that when they talk about cuts, they're not really talking about cuts. First you take last year's spending level which was \$1 trillion or \$1.001 trillion. Then you have to add an inflation factor, and then you have to add the funding of new programs. All the military and civilian pay increases come up to \$1.08 trillion that the government is going to spend in 1988. And if you trim the \$1.08 trillion back to \$1.07 trillion, you've cut the budget, even though you're spending \$70 billion more than the year before.

You know, I should hire that accountant for my business. You should've for your business. I'm afraid our bankers wouldn't have been convinced by that approach, but at least it's an interesting one. And we really can allow all programs to grow, but we simply have to allow them to grow a little bit slower and then we could have done what was necessary. And I think that the President could have banged the table a little bit harder. And when you get all these congressmen, 19 people together around the table -- neither Leahy or I was there, which was probably the problem -- you're not going to get anything done. And the same thing happens in agriculture. You just drop to the lowest common denominator. How are you, Pat?

SENATOR LEAHY: Not bad, not bad. I caught that. It's too bad none of Rudy's bills are going to go on the agenda in the next year, but don't let that bother you, Rudy.

SENATOR BOSCHWITZ: I just got one of them through.

SECRETARY LYNG: I'm delighted to say that we have now been joined by the senior senator from Vermont, the Chairman of the Agricultural Committee of the Senate and

a man who has been busy on the floor this morning voting. And we're pleased, Pat, that you were able to make it. We've settled almost everything here, Rudy and I.

SENATOR LEAHY: Rudy's taken all my water, jumped on my lines, but, Dick, it's nice to see you.

SECRETARY LYNG: No, as a matter of fact, there's been nothing unkind said about you or anyone else here this morning. Perhaps it's time to get started with that.

SENATOR LEAHY: No. I'm so glad I came out of the other hearing to come down here.

SECRETARY LYNG: We talked a bit about the 1985 farm bill, the Food Security Act, and what changes Senator Boschwitz might anticipate. Would you want to comment on any changes in 1988 that you might think would come?

SENATOR LEAHY: Well, first let me relay a little bit of good news, and Rudy may have mentioned this and I voted on it very seriously -- a bill that would not have passed without the help of both of you, or is about to pass early tomorrow morning -- the farm credit legislation. Two months ago, I told the leadership we may need a week or two to get a farm credit bill through the Senate. We started with just opening statements two days ago; had the real debate yesterday. I think it was about 6:15 last night that we finished it. It really was one day, one day of debate.

It's a good bill. I think it assures us that we will at least have most of the conference completed before we leave for the Christmas recess. We may even have a bill to send down to the President, but at least the whole Farm Credit System will know what the legislation will look like.

Senator Boschwitz is a ranking member of the subcommittee that handled that legislation through it all. The Department of Agriculture -- which I know has very direct input from you, Dick -- was there at every step to tell us what the administration could or could not work with, and was willing to compromise those times when it had to in the same way that all of us were. Rudy made it very clear with his people we were not writing either a Republican or a Democratic bill, but that we were going to write the best bill.

And it was one of those rare things in which it came out of the committee 19-0, and that meant a bit of an ideological spectrum in the Senate Agriculture Committee. Just going through the H's for example, you have Helms to Harkin or Harkin to Helms. I always refer to myself as a neomoderate on that committee, but we passed it, and it's a good piece of legislation. And it's a good example of what we can do when we set aside partisanship and work for what is best.

Now we're going to have to do the same thing in a lot of other things, and I think the most difficult is going to be in the next couple of days. I just came from the Appropriations Committee where we're wrestling with a budget, the defense budget, but it'll be nothing like what Congress and de la Garza and I and Dick Lugar and others are going to have to wrestle with in the next couple of days to save \$900 million out of agriculture for the coming year, and \$1.6 billion the year after. And that's notwithstanding the fact that what we have done in the past has gotten a savings of \$3 billion in the legislation.

I see my friend Chairman de la Garza coming down here now. What I will do, of course, is let him do all the work and then I'll get the credit for the savings on it.

SECRETARY LYNG: The farm credit bill was a good bill and now we have to fix up that bill that the gentleman just arriving sent over.

SENATOR LEAHY: You know, one of the things that helped move us is that the House did work quickly on a farm credit bill. Now we have one. There are some differences, but I'm convinced that we can work them out in conference and come out of conference with a piece of legislation that will be acceptable. The important thing is that we have to send a clear signal. In my mind, we have to send a clear signal by Christmas of just what is going to be in that legislation so that some of the parts of the Farm Credit System that are very shaky today --

SECRETARY LYNG: Well, I'd like now to introduce to all of you the Chairman of the House Agriculture Committee, the Congressman from the Rio Grande Valley of Texas, Kika de la Garza. Pleased you could join us, Mr. Chairman. And Congressman Pat Roberts from the great state of Kansas where they grow all the wheat in the world, he thinks, and comes fairly close to being right, I guess.

CONGRESSMAN ROBERTS: And the price is always too low.

SECRETARY LYNG: And he never fails to say that when he's at the Department of Agriculture.

We're delighted to have you join us. We have been going on here for about a half an hour. Senator Leahy just joined us and was speaking a bit about the action of the Senate yesterday in passing farm credit legislation -- well, not passing, but getting through the debate. And he's optimistic that tomorrow the farm credit legislation will pass in the Senate.

Mr. Chairman, perhaps while we're on the farm credit legislation, you might react to what you think would happen now between now and the end of the year on that legislation.

REPRESENTATIVE DE LA GARZA: Thank you, Mr. Secretary. I appreciate the invitation to be here, and extend my greetings to all who have come; and my colleagues, to Leahy, my chairman, and to Boschwitz. We bring the regrets of Tom Foley, our majority leader. We just left him on the floor. He was standing on the floor not knowing if he would be on the floor the way the votes were coming.

We did our part of the farm credit legislation and sent it along to the Senate. The Senate has now acted. If I had my druthers, we'd go as promptly as possible to conference with the Senate and work out our differences, which are not major, between the House and the Senate. The problem we have now, were we not to act, is that under the present law, it's rather awkward if the Congress is out of session should there be a recommendation from the Farm Credit Administration for an infusion of funds. If we're not in session, that's an impossibility.

Secondly, there are still some problem areas, but most important, I think, is the message that we send and the perception of the public and all others that would participate in the Farm Credit System. So I think it's to our advantage that we act as promptly as possible.

One other thing: regardless of what the substance is going to be, I think that we need to send a message that the status quo is not going to be able to remain; that we need to do something beyond the status quo if there is to be an infusion of Federal funds or taxpayers' money to assist the system. We can't just say, here's more money, go merrily along as you were going, without making any changes. But the parameter for the changes is yet to be decided in conference.

SECRETARY LYNG: Pat, you want to add to that?

CONGRESSMAN ROBERTS: Oh, I'll be happy to toss my two cents worth in. I'm just happy to be here. There's an old expression out in my country that if you want to be a big flea, you have to run with tall dogs. And I'm just happy to be up here with these folks.

I would say, in regard to the farm credit legislation, the chairman was just out speaking to the Kansas Farm Bureau, and that one of the primary questions was about confidence in the Farm Credit System. And I would think that if we could go to conference, there would be a very good chance that we could get a product that we would all back and support.

There are two differences. One is the funding difference, which is substantial, but I think we can iron that out. And most of my producers out in my country say, sure, okay, shore up the system; but not one federal dime unless we have local control and we can reform and restructure the way that the system has been operating. It may be more local control than they ever wanted, but it seems to me that we have to at least address that to some degree.

So I would simply say that I would add to the comments of my chairman, I would hope we could go with the conference. If we do not, I think a strong signal has been sent to all in agriculture, and in regards to those folks in the markets, that we will stand beside the system and we will, in fact, shore it up, if not now at the end of this session, certainly at the first of next session.

SECRETARY LYNG: Before the last three of you came, Senator Boschwitz was asked by me if he thought that there would be any major changes in the 1985 farm bill, the Food Security Act of 1985 in 1988. I asked Chairman Leahy that -- to comment on that, and he chose not to. He chose to talk about the farm credit thing.

But I don't think that you were deliberately avoiding that, so may I ask you again?

SENATOR LEAHY: When you consider how long it took to get the '85 farm bill through, the easy answer is that there will not be a rewrite of the '85 farm bill. I don't think you could do that. But I've never seen a farm bill, in the 13 years I've been in the Senate, that doesn't have some changes made as it goes along. There are changes that occur. Soybean plantings are way down. Maybe that's a program change we should be looking at.

I would like very much to see some dramatic changes made in our dairy program. I'd like to see a regional dairy program. I think the present system makes no sense. It rewards the sections of the country that greatly overproduce and gives no benefits or incentives to sections -- and I must admit some parochialism -- like my own in the Northeast where they have lowered production and where there's actually a deficit of milk.

That's an area that we will be looking at, but I don't see an overall rewrite of it. What I do see as a real necessity, and not only for our committees, but also the administration, is to work closer together, and also in the next administration, if we are going to make some major changes worldwide at the GATT and EC. Those are going to require basic changes in our farm program, and we'd better start building the consensus for it now. In that respect, some of our European trading partners and Japan have not been as forthcoming as they should be; and I'm extraordinarily disappointed with them.

And I think that the consensus could be built for some major changes here in the United States. I'm not one who has rejected the administration's proposals there. In fact, as you know, I've said a number of very good things about it. There are some things I might've done differently, and I think eventually some things will be done differently, but I think it is a valid proposal that will succeed, provided the European and others are more forthcoming. I think some of the proposals the administration made now will carry over into the next administration and will drive a lot of the next farm bill, but I cannot imagine in the second half of the 100th Congress a complete rewrite of the 1985 farm bill, no.

REPRESENTATIVE DE LA GARZA: I agree with the Chairman that the possibility of minor corrections here and there always exists, but I would like to preface all that by insisting, and the record is there, that the '85 Farm Act is coming into place, and it's working fairly well. The commodities that we deal with are working.

We worked ourselves out of a surplus in cotton. The price is holding well. We worked ourselves out of a surplus in rice, and the price is working up. The peanut program is working as we intended it. With the sugar program, there are problems, but not because of anything we did with the program. That's working. The dairy program is basically working. The cost is down. The surplus is gone. I kept insisting and shouting from the top of the dome that a 30-day supply can go like this, while all the nay-sayers in the editorials and the negative side of it kept insisting that it was horrendous. Also the wheat and the grains are slowly coming in, firming up. So I think the word is to stay the course, because it is working. We're only into the second year of a five-year act.

SENATOR BOSCHWITZ: If I may comment: I'm with you, Mr. Chairman, on that. If you look at wheat exports this year, they're approaching the highest levels that we have had. And the wheat carryover is down by 360 million bushels. I think wheat exports are now scheduled to be a billion 275 million bushels, and we are regaining 75 percent of the world's corn market.

It's working pretty well, and I'm very much for staying the course and may even resist minor changes because I think that we have an obligation to the farmers as

to not keep pulling their chains so often they don't know what in the world to do. And if they're going to have confidence in us, I think that we shouldn't make changes, and should even resist minor changes if we can.

SECRETARY LYNG: Congressman Roberts?

CONGRESSMAN ROBERTS: Well something ought to be said on behalf of consistency and predictability. It's like one old boy told me at the Hutchinson State Fair this September: "Pat, I don't care what you do to me, just let me know." I agree with the Senator, and I don't think the votes are there to change the farm bill.

As compared to what? What are we going to do? We can't go back to the parity bill. You know, parity has been sort of rode hard and put up wet. We're at the cost of production now. We use that as a yardstick. What about Harkin-Gephardt? Why, Gephardt doesn't even call it Harkin-Gephardt -- he calls it Harkin.

I sometimes think the best thing that could happen would be to have Dick be president and simply live with the thing; but I'm not going to do that. Rice and cotton have the marketing loan. They're getting healthy. I wish we had it for wheat and feed grains, but that's sort of an expensive quarter horse. And we can't do that. We have an obligation, as the senator pointed out as I was walking in, to cut \$900 million out of the summit bill, if it even passes. We don't even know if that's going to pass. So I think we'd better stay the course. We are doing a lot better in wheat country. We haven't seen the progress they've had in rice and cotton, but on behalf of consistency and predictability, I think we had better stay the course.

One thing though, now, Mr. Secretary: I think we could use a little substitution, and you have discretionary authority for a 10 percent substitution, which I don't think would cost anything. We sent you some mail on that. You sent us back a four-page single-spaced letter that said no, but I really think those kinds of minor reform and restructuring things could possibly take place. And I'll visit with you about those later.

SECRETARY LYNG: Well, I appreciate very much some of the comments that have been made, particularly by Chairman Leahy, about the support that he and others in the Senate and the House have had for our efforts in the Uruguay Round. I appreciate, too, the support that we've had from you, Mr. Chairman, on this. Clayton Yeutter and I have been up and met with you and the members of the committee. I think it's particularly important that we, in many of these agricultural things, have the attitude which we do have. It's what you've described in terms of the 19-0 vote in the Senate committee on the farm credit legislation.

These issues have not been partisan issues very often in agriculture. And that's particularly important in the Uruguay Round because -- that doesn't mean that you accept every word that Clayton says or that I or others -- in general, our trading partners understand that in the United States, both parties have an attitude that is pretty much the same. And I think that's true.

Wouldn't you agree with that, Kika?

REPRESENTATIVE DE LA GARZA: Yes, I agree and I really should add once again, publicly, my commendation to Ambassador Yeutter and to you for the work that you've done in a very difficult area. Whether we achieve the expectations put forward are yet to be seen, but the work that has been done up until now and the work that hopefully will come into place in the near future has been through major efforts by Ambassador Yeutter and yourself. And for that we're very appreciative.

SECRETARY LYNG: I guess I should point out, with this much congressional power here, that the Gramm-Rudman, as it's affecting our dairy producers, is a major problem. We've had to announce the reduction of 8.5 percent in the support price of butter, of powder, and of cheese. And this will begin to come into full effect before many weeks. It actually is in effect now, but it takes a little bit of time for that to get through the pricing systems and be noticed in the checks that the dairy farmers receive.

I hope that we could get some relief from that, and I would certainly recommend to you the recommendation of the summiteers on agriculture, which I understand calls for a different system on the dairy system.

Does anyone want to comment about this?

SENATOR LEAHY: You're talking about the possibility of an assessment?

SECRETARY LYNG: I don't know the details of the summiteers' recommendation, but it did call for a 2 percent reduction in target prices and 2 percent reductions in dairy, along with other supports. That would be vastly superior to the 8.5 percent.

SENATOR LEAHY: The 8.5 percent is going to be devastating, and that's one of the things that we're going to be looking at in putting together a package for the summit. Right now, dairy is taking a disproportionate part of that \$900 million. I think that all commodities realize there's going to be some tightening. I can find it acceptable if it's spread out a lot more evenly, but the cuts now that go in dairy, really all they do is to lower, dramatically, the price that farmers are going to get without affecting the basic underlying question, which is the surpluses, most of which are going down. An assessment may well be the way, but we have got to find something better. And I agree with you: we've got to find something better than the 8.5 percent cut.

REPRESENTATIVE DE LA GARZA: Mr. Chairman, my expert on dairy is Senator Leahy, but we'll be meeting, hopefully, before the end of the week between the House and the Senate to fill in the language for the numbers arrived at by the so-called summit. Dairy is the one that because of the difference as to the type of law that we operate on dairy that we have to work it a little differently. But I see no reluctance in the dairy industry or among dairy farmers -- at least everyone that I've had opportunity to visit with -- to take their fair share. I think that's something that we begin from. We need to figure out how to make them equal to the others so that, fairly, everyone receives or takes a fair share of the action. And I think we can work that out.

SECRETARY LYNG: Unlike wheat, Pat, the dairy is harvested every day. That's one of the reasons that dairy gets up front in all this. But if we don't change the format, you'll have an 8.5 percent reduction in the deficiency payment and in the loan.

CONGRESSMAN ROBERTS: Well, let me respond to that. I would just simply tell all my good dairy friends that I share their sense of frustration, but not to the extent that we're going to support any more dairy whole herd buyouts. Since we have little, small livestock industry out there, we have just a little bit of blood pressure about that. In terms of fairness, you always want to do something on behalf of one interest group in agriculture, but not at the expense of another -- so whatever we do, I would hope that we could work out some kind of a summit package.

And I don't want to go through what I refer to as Grambo, either I or II. It would be devastating to agriculture. But I guess being the resident mugwump on this panel, I don't think the summit's a summit. I think it's a place in the side of the road that's going to send us into a ditch. It is more business as usual as far as I'm concerned. I think we can do better. Now, to everybody that has taken part in this debate, I don't mean to point any fingers of blame and I want to give them all the credit in the world. It's basic, you know, "while I" speech on Capitol Hill. You know: "while I love my colleagues, while they've done long and hard work, and while I...". But this isn't what we need in terms of a summit.

If you look in the dictionary, we have a budget crisis. We can do better. I don't know what happened to the rule vote, Kika, when we came down here, but there was a vote on a rule to pass the continuing resolution. And there's an effort now in the Senate to do better to take on entitlements, to take on defense -- and, yes, some tax increases if we do actually apply them to the deficit. I hope we can get that done. In any case, a 2 percent cut or a freeze, or whatever, will be more fair to agriculture; either the summit or the freeze proposal, if we can get it, than, say, Grambo II. And I hope that we do achieve something along those lines.

SECRETARY LYNG: Well, we promised you people that we would end this session at 12:15. We're past that time. And I know that you're still in session in both the Senate and in the House.

Does anyone have a single issue or do you want to tell us how to run the Department of Agriculture?

CONGRESSMAN ROBERTS: I'd like to do that, but I'd like to ask if the godfather of decoupling has said all he wants to say on behalf of that concept, 'cause I think it's high time we took a look at the 1990 debate on what we do down the road. It's not too early to expect that. I have a few little reservations about decoupling, but I credit the senator for really shaping the debate on where we're headed in the future, as well as the Chairman of the Agriculture Committee for getting us a good bill.

SECRETARY LYNG: Senator Boschwitz did say something about that earlier, but let's give him another chance.

SENATOR BOSCHWITZ: Well, actually, Pat, I covered that. I certainly would welcome you on that bill. We need a couple of cosponsors in the House, and I think it is indeed the way for the future. I would not pretend to tell you how to run the Department, Dick.

I agree with the chairman -- and pardon me, Pat, for making such a speech, but I think that you and Clayton Yeutter and others have really pushed the whole business of agriculture onto the world stage; not only to heightened recognition, but also have given a very futuristic view of what should happen. And I must tell you, even in introductions I refer to Secretary of Agriculture with him sitting there as a canny old dude, and he is indeed that. And he and Clayton Yeutter, together, I think, have moved things ahead.

As we talked about the farm credit bill, Mr. Secretary, I think we should mention your people who were over there: Floyd Gaibler, who I see here, and also Mr. Hertzler; I wrote you a letter naming them. I think they were absolutely essential, and they really did terrific work in making that farm credit bill possible. And so I join with my chairman, with apologies again to Pat for making these kinds of speeches, but we put together a pretty good bill. And your department and the people that you had over there ready to negotiate, ready to make decisions rather quickly, were a large element in making that possible.

SECRETARY LYNG: Well, I certainly want to thank all of you for joining us. I'm sorry that we picked such a busy day for you, and I apologize to you for the way that worked out. But I thank you for the special effort that all of you made to come. I think you've been a superb panel, and it's been a real pleasure for me to participate.

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DECOUPLING" - A COMMODITY POLICY THAT MAKES CENTS

Rudy Boschwitz
U.S. Senator

You can't fool economic realities for long. Government programs that try may succeed in the short term, but are bound to fail in the longer pull. While it's tempting to pass a patch-and-fill farm policy and get through the next election, such policies have and will continue to lead inexorably to the decline of the family farm and all of rural America. For perhaps no reason other than this, we took the longer view and dealt with economic realities when we introduced the Family Farm Protection and Full Production Act of 1985. It was described as "A policy ahead of its time."

Senators David Boren, David Karnes and I have decided to reintroduce a modified version of our 1985 bill because we believe now is the time to look beyond the 1985 Food Security Act (the bill now governing agricultural programs) to the policy we want as the year 2000 approaches. Our bill would not take effect until the 1990 crop year and would run for six years.

At the base of our bill is the belief that American agriculture can compete, and that in combination with our highly efficient agricultural infrastructure, American agriculture in fact has a competitive advantage.

The fundamental difference between our approach and that of the last 50 years is that we remove the requirement to plant wheat, feedgrains, cotton and rice in order to get income support payments. Further, we intend to reduce the nonrecourse loan rate to a point where planting is not artificially induced and sales are not hindered by uncompetitive prices. Because we try to break the link between production decisions and government payments, our approach has been called "decoupling."

Our bill recognizes that agriculture is the single most subsidized industry worldwide. These subsidies are based on the fact that much of the world knows hunger, and much of the developed world (particularly Europe and Japan) remembers starvation. It is not likely that such countries will easily or quickly give up their regime of subsidies; nor is it reasonable to assume that the American taxpayer (few of whom have known such hunger) will be willing to continue the degree of subsidies we have known for the past three years.

Our bill phases down our subsidies and makes those of other exporting nations potentially so expensive that they will have to consider more market oriented policies or consider shutting down their production for export. Furthermore, our bill gives the United States the moral high ground in the multilateral trade negotiations aimed at cooling the heated arena of world ag subsidies.

It is interesting to note that the Reagan Administration proposed "decoupling" on a global scale through the GATT process. Decoupled payment would be the only form of producer support ultimately allowed by the Reagan proposal. Since that time the Cairnes group, the Canadians and even the Europeans have endorsed decoupling as a way to reduce the trade distorting effects of subsidies and protectionism.

The only aspect of our bill upon which some focus is "decoupling". There's another important -- even overwhelming -- aspect to our bill and that is its impact on conservation and the environment. By removing incentives for production both by decoupling and reducing the loan rate to around the variable costs of production, we have removed with considerable finality artificial incentives for the extensive use of expensive inputs such as pesticides, herbicides and fertilizers in order to get more government farm program benefits.

HOW DID WE GET HERE?

Farm problems today are generally concentrated in mid-sized farms. Using solvency and net farm income measures, USDA estimates that family-sized commercial farms (\$40,000-100,000 in sales) were more financially stressed than any other farm size in 1986. Thirteen percent of these farms were stressed compared to eleven percent for larger farms and ten percent for smaller farms and seven percent for the smallest farms. These mid-sized farms represent 35 percent of all farms, controlled 52 percent of all farm assets, but owed 64 percent of all farm debt. These mid-sized farms do get government benefits, but they are roughly proportioned to their output. Larger farms get a disproportionate advantage in direct and indirect government farm program benefits, while smaller farms do not get their fair share of government benefits.

Cash grain farms, the ones for which we provide price and income supports, had the highest average debt to asset ratios. The Corn Belt region was the most indebted region having over 23 percent of all farm operator debt, almost 17 percent of which was held by technically insolvent operators.

Many economists conclude that past farms policies have probably helped raise the average level of farm income compared to non-farm income, but have distributed benefits so that the largest farmers get the most benefits.

Other economists argue that farm income would have been greater without farm programs. All benefits are distributed without regard to need so that the poorest farm families receive no more assistance than the size and type of farm they operate. Current policy supports bushels, pounds, and bales -- not farmers. Only through what farmers produce do they receive support. Further, only 25 percent of the commodities produced have income supports attached to them.

Unfortunately, almost all of the benefits farmers may have gained from farm programs or new technology have been bid into the price of land. Farmers and rural lenders have traditionally believed that land ownership was the key to wealth. However, the 1970's boom in land values simply raised the cost of production for farmers. Anyone who went through that period knows that prices paid for land would never pencil out. Only when combined with other previous low-price land purchases could farmer and lenders justify expending such sums.

Like every economic bubble before it, this one burst. What was intended to be a wise investment in a rising land value market turned sour as the farm economy reversed in the early 1980s and with it farmland values sunk as rapidly as they had risen. Farmers who incurred massive debt in anticipation that land values and commodity prices would continue to rise lost their gamble and in many cases their farms. If people ever wonder about the "costs" of inflation surely this boom and bust shows them clearly.

High tech, high input, and expansionist farming has been encouraged and rewarded by our farm and tax policies. By guaranteeing price, markets, and offering subsidies based on production, the aggressive producer could have the government underwrite the purchase of his neighbor's farm.

Today we find an agricultural production system that is highly specialized. Each farmer does one or two things well, but is very dependent on those one or two activities for their income. It is not surprising that our worst farm troubles are in the Corn Belt. It is an area where reliance on two price supported crops has grown and where land values increased the most during the double-digit inflation era. Corn and soybean farmers now feel the consequences of having no other alternative income sources such as livestock. Our farm programs have rewarded such activity by reducing the risk of specialized cropping.

The conventional wisdom that farm programs should reduce risk may be totally false if the goal is to keep farmers on the land. Small diversified farmers are better able to tighten their belts and spread their risks -- especially if they have not borrowed heavily -- than large high tech farmers that rely on one crop. But our farm programs have reduced risk in the production of certain crops and therefore borrowing to invest in their production has taken resources away from other farming enterprises and directed them toward those commodities that have price and income supports.

This new legislation will allow farmers to regroup and do with their land, labor, and capital what makes sense for each of their individual operations. No longer will the federal government encourage or discourage the production of one commodity over another. No longer will we reward more production with more benefits and no longer will we force farmers to get permission from their local ASCS office for every production decision they want to make.

MAJOR DEPARTURES FROM CURRENT POLICY

Income Supports

The Boschwitz/Boren/Karnes decoupling approach takes aim at the disease while sparing the patient. We believe that production controls are not needed if the marketplace is allowed to set the price (although the Conservation Reserve Program would continue). Farmers simply will not produce if the price is too low. Under this program, for a while, prices might be low, but not much lower than they are now according to most studies. However, as our customers return and demand expands, prices will rise. In the meantime farm income will be supported through an "equity payment." The new equity payment is similar to the present income support payments made through the complicated target price/deficiency payment scheme.

Equity payments are, however, different in three respects.

- 1) They are known in advance over a six-year period and are based on historic, not current plantings. They do not depend on unpredictable market prices. Our plan gives farmers the "upside" of the market while current policy takes the "upside" away. What could be worse for farmers than to watch prices go up knowing that they probably will not get any of that extra money? For every penny the price goes up their deficiency payments are reduced a penny under current law. Our plan would let farmers keep that money generated in the marketplace.

We believe strongly that producers must have an element of financial security to plan the most efficient long-term course for their operation. Therefore, in addition to nonfluctuating payments, we provide an option for the producer to sign a multiyear participation contract so that he knows exactly how much income support can be counted on from the federal government for the full term of the contract.

2) The government would not dictate how many acres should be planted and how many should not be planted in order to get the equity payments. Our present policy takes away much of the individual decision making rights that go along with operating a private business. Producers are told how much of each program crop they must plant and how much of each program crop "base" must be laid aside.

Agriculture has always had one of the fastest technology adoption rates of all industries. Many producers would like to experiment with new crops and crops that are in demand locally. However, current government policy locks people into producing wheat, feed grains, cotton, and rice whether they want to or not. This seems pretty ironic considering the fact that, except for cotton, all of these crops are in tremendous surplus.

The Boschwitz/Boren/Karnes proposal unhooks the requirement that producers plant a certain amount of each crop in order to receive payments. The bill does, however, protect the interests of nonprogram crop producers so that our entire, wheat, feed grain, cotton, rice, soybean and sunflower acreage is not opened to compete with nonprogram crop producers immediately. Production of nonprogram crops would be allowed on a gradual basis in direct proportion to the phase down of income support payments.

3) The equity payments are targeted to the small and medium size family farm with an overall payment limit that is less than current law.

Present policy is a complicated system consisting of a \$50,000 payment limit for one type of payment (the regular deficiency payment); a \$200,000 limit for other payments (those from marketing loan benefits); and a \$250,000 overall payment limit. These payment limits have resulted in a hodgepodge of economic and political problems. Producers must carefully plan their operations in order to avoid one or both of the limits. The time, effort, and money allocated to dealing with payment limits robs resources from agricultural production and management thereby reducing efficiency.

This legislation targets payments by tiering each \$50,000 of payment eligibility so that the payment is progressively less advantageous for larger farms. Total tiered payments may not exceed \$200,000 in any case. It also allows the Secretary to define a "person" for payment limit purposes in such a way as to more accurately reflect true farming operations.

Loan Rates

In an environment where producer income is no longer taxed through the unpaid acreage reduction requirement needed to offset production incentives, it is essential that price supports (loan rates) do not influence planting decisions.

Originally, nonrecourse loan rates were a temporary response to a depression era cash flow emergency. Throughout history however, nonrecourse loan rates have been used to support prices above what they would otherwise be. As mentioned earlier, production increases then must be dealt with through supply controls and the net impact on producers is very difficult to determine. Many studies indicate that farm income is lower than it would otherwise be -- not to mention the impact this system has had on creating fewer and larger farms.

What makes matters worse is that these policies were enacted as if American farmers existed in a vacuum. As our price supports raise prices for a limited amount of American production, they raise prices for an unlimited amount of foreign production. Our competitors in Canada, Australia, Brazil, Argentina, the European Community and many other places have increased production and supplied the markets at a price we refused. Not only that, as our price supports increased world prices, many countries took a look and decided to start growing more of their own food.

Loan rates have a legitimate role to play in providing a safety net for producers and as a marketing and financial tool. However, it is inappropriate and counterproductive for them to be used to enhance prices. You can't fool economic realities in the long run.

Production Controls -- Effect on Farmers

Our basic problem is that current and past policies have defacto determined how many acres are planted in this country. We require farmers to set aside so many acres and to plant on so many acres in order to get program benefits. This "control valve" on supply must be used because our loan rates and high target prices encourage too much production. Not only do the loan rates encourage production, but (absent consumption subsidies) they discourage demand. It is akin to pushing the accelerator (loan rates and target prices) and the brake (acreage controls) at the same time. In the past we have tried to keep the car moving by just letting surpluses pile up and when they got too big we slammed on the brakes with programs like the 1983 PIK program.

Things look better, but the underlying problems are the same. The 1985 farm bill made our products more competitive, but has not done much to allow or encourage our farmers to be more competitive. Until we stop encouraging production through offering producers more for their product than the market will give, production restraints will be needed.

Wheat producers in 1986 had to voluntarily idle 27.5 percent of their ground in order to be eligible for nonrecourse commodity loans and deficiency payments. Interest and principal payments plus taxes and other costs continue on those set aside acres and drive up the guaranteed price necessary to cover those costs on the 72.5 percent that is planted. So instead of getting the \$4.38 per bushel target price set by law on their production, they really got about \$3.40 per bushel (\$3.25 per bushel considering the 4.3 percent Gramm-Rudman reductions) when the target price is applied to the entire base. Wheat farmers could take a \$1.60 per bushel loan and a \$1.65 equity payment with no acreage limitation and be just as well off as they are under the current program.

Our new approach of dealing with payments and production on the entire base, putting the loan at or near the variable cost of production (put it too far above that level and you're sure to get too much production) is fairer, more realistic, and production decisions will be made for economic not programmatic reasons.

One of the most discouraging things about our land diversion programs is that they treat all farms and all land as if they were the same. Our best land and our best producers must lay aside the same portion of their farm as our worst land and worst farmers. In essence, we tell farmers who are able to compete with anyone in the world that they can not compete. Similarly we tell farmers who would be better off to stop producing, collect their payments, and reorganize their operation that they must go on producing. Surely our most efficient farmers should be allowed to do what they do best. To prevent the best uses of our labor, land, and capital resources is to deny the principle of comparative advantage. Then, our whole economy loses out.

Working hand in hand, price supports and production controls have given our markets away to foreign competitors. Because we set our loan rates above world market levels and backed those loan rates up with production controls, foreign competitors produced more (surprise, surprise!!). Our historic customers were drawn to cheaper sources of supply which we had essentially created by our protection of world prices. As demand dropped for our agricultural goods, it grew for our competitors and they were more than happy to fill the orders.

Not only do production controls tax farmers, but they also harm the rural economy. The food chain constitutes nearly 20 percent of the Gross National Product. But the value actually added on the farm is only 2.5 percent. Farm inputs and purchases are another 2.5 to 3.0 percent. The small towns in rural America live on the sale of these inputs and the very considerable value added beyond the farm gate. Limit farm production and you thereby limit activity in rural America. Cutting production by half and doubling the price as some would do might enrich some farmers (in the short run) but would certainly play havoc with all other residents of rural America who participate in the food chain. Livestock farmers would especially be hurt as high feed costs reduce production, raise prices and discourage demand for meat. Farmers also would find that the goods and services they need to produce and market their crop--not to mention care for their families would be gone. This result may be unintentional but it surely will occur. As long as we have production controls we will never have full economic recovery in our small towns and cities.

The importance of this linkage is evident when one looks at the employment figures for the Corn Belt. While U.S. employment increased 11.1 percent from late 1982 (the worst period of the recession) to October of 1985, employment in many of these agricultural states only increased at half the national rate.

SUMMARY

Senators David Boren, David Karnes and I offer this bill as the next logical step in agricultural policy. Farmers need an income safety net--this bill provides it. Farmers need to farm--this bill allows it. America needs to compete--this bill will not get in the way. Rural America needs people and money--this bill will allow for higher farm incomes and the subsequent recycling of that income in our rural economy.

The world, especially the European Economic Community, is carefully watching the American agricultural policy scene. There have already been major supply and demand changes since enactment of the 1985 farm bill--most in favor of American farmers. The Europeans know they cannot continue their programs while the U.S. follows a market oriented strategy. Now is the time to show the world that we intend to continue down the road to freeing American farmers from our crippling pact policies.

Early and open debate on the consequences of "decoupling" is why we introduce a bill now. Undoubtedly the details will change as we get closer to the time for a new farm bill, but the concept will stay the same. We welcome feedback on our proposal and look forward to the debate.

Family Farm Protection Act of 1989
-At a Glance-

Goals

- 1) Protect farm income
- 2) Give farmers the freedom to farm
- 3) Enhance American comparative advantage
- 4) Improve the economic and social viability of rural America

1) Farm Income:

a) Equity Payments

The Act sets up a system of "equity payments" for producers of wheat, feed grains, cotton, rice, sunflowers, and soybeans. These payments are made directly to farmers based on historical measures of production on their farms. Farmers may sign multiyear contracts in order to be certain of program payment levels.

Equity Payment Rates (\$)

Wheat	1.35/bu.
Corn	1.04/bu.
Cotton	.208/lb.
Rice	4.38/cwt.
Soybeans	.80/bu.

Equity payments for other feed grains, sunflowers and ELS cotton will be set in relation to corn, soybeans, and upland cotton respectively.

Payment rates will be derived by multiplying the 1989 crop acreage base by the 1989 program payment yield for each crop.

Payments will be reduced by 10 percent in each crop year so that by the end of the Act payments will be at 50 percent of their beginning level. Soybean and sunflower payments will be reduced by 20 percent in each year of the Act so that they expire with the Act.

b) The "Upside"

Payment reductions will be offset by an innovative provision of the Act whereby producers obtain the "upside" of the market price. Under current law deficiency payment are reduced as the market price rises. Under this Act farmers may keep the entire price above the loan rate.

c) Farm Income hold harmless clause

If, in crop year 1990 and 1991, the Secretary determines that net farm income for producers of wheat, feed grain, cotton, ELS cotton, rice, soybeans and sunflowers, on a commodity by commodity basis is less than it would have been if the 1985 Food Security Act were continued and had such producers participated in the wheat, feed grain, cotton, ELS cotton, rice, soybeans and sunflower programs as determined by the Secretary shall make additional payments so that net farm income on a commodity by commodity basis meets or exceed that which the Secretary determines would have occurred under the 1985 Food Security Act.

2) Farmer Freedom:

a) Unpaid acreage diversions

The Act contains no authority for any unpaid acreage diversion. All land diversion is voluntary and does not qualify producers for price and income support like present law. The Act essentially does away with individual crop acreage bases by making payments on a historical rather than current production pattern.

b) Paid acreage diversion

As a cost reduction option, the Secretary may accept bids for acreage diversion on an annual basis. Such payments would be in addition to and not in lieu of equity payments. Depending on the size of the Conservation Reserve Program (CRP) the optional paid diversion could range from 5 to 10 million acres.

c) The Conservation Reserve

The Conservation Reserve Program (CRP) would remain in place. Therefore, land already enrolled in the program and future CRP acreage levels mandated by the Food Security Act of 1985 will not be reduced. The CRP is designed to idle 40-45 million acres by 1989.

The combination of CRP and paid acreage diversions may not exceed 50 million acres.

d) Nonprogram Crops

Producers of wheat, feed grains, cotton, ELS cotton, rice, soybeans and sunflowers receiving transition payments would only be allowed to plant nonprogram crops on the percent of their acreage base that corresponds to a cumulative percent reduction in their payments.

The percent of the 1989 farm acreage base that may be planted to nonprogram crops follows:

1990	0
1991	10%
1992	20%
1993	30%
1994	40%
1995	50%

Nonprogram crop currently permitted for planting on "50/92" land will continue to be permitted on all acreage.

Producers may plant any combination of wheat, feed grains, cotton, rice, soybeans and sunflowers or the equivalent of their 1989 crop acreage base.

Haying and grazing will be allowed on the percent of the farm acreage base outlined above and the acreage devoted to wheat during the 1989 crop year.

3) Comparative Advantage

America has learned that in a global market environment we lose by trying to hold prices above market clearing levels. With more competitive pricing brought on by provisions of the 1985 Food Security Act, our exports and our market shares are gaining ground.

Loan rates set at or near the variable cost of production without forced land diversions to qualify for income support payments, will allow our best farmers and our best land to do what they do best--PRODUCE!

a) Nonrecourse Loan Rates

Wheat, Feed grains, cotton, rice, and soybeans will have nonrecourse loan rates set at the following levels:

RATES (\$)	
Wheat	1.60/bu.
Corn	1.30/bu.
Cotton	.45/lb.
Rice	4.50/cwt.
Soybeans	3.50/lb.

Loan rates for other feed grains, sunflowers, and ELS cotton will be set in relation of corn, soybeans, and upland cotton respectively.

Nonrecourse commodity loan rates may be adjusted by not more than 5 percent if, in the previous two marketing years, market conditions warrant such an adjustment and such an adjustment will not jeopardize the competitive position of the United States.

b) Marketing Loans

If world market prices are below the loan rate, the Secretary must allow repayment of nonrecourse commodity loans at the world market price.

4) Rural Development

a) Acreage Controls

Only about 25 percent of American counties are classified as "agriculturally dependent." These counties receive 20 percent or more of their income from agriculture. The communities in these counties will not fully participate in economic prosperity without prosperity in the farm economy. Communities in agriculturally dependent counties act as servicing agents for farmers and as a trading center for their commodities. Without production there is nothing to service and nothing to trade. Policies such as the current one where upwards of 70-80 million acres are idle certainly hurt small rural towns. Our bill will limit the total acres of idled through government program to 50 million acres.

b) Environmental Quality

Currently policy forces farmers to squeeze every bushel, bale, or pound out of their land that they can. Loan rates prior to 1986, income payments, were linked to production so that the more you produced the more Federal benefits you received. Naturally, this led to more production and in many cases on fragile or marginal ground.

Further, because farmers are forced to idle part of their land to get Federal benefits, they have to recover all of their fixed costs on the idled ground such as mortgage payments, interest, and taxes. They do this by coaxing as much production from their "permitted" acres as they can. This system has led to poor resource allocation and the excessive use of inputs such as pesticides, herbicides, and fertilizer.

Groundwater quality, lakes and streams, grass waterways, shelterbelts, and general environmental quality are critical to the quality of life and rural America. Our rural areas are attractive to many simply for the quality of life. Our bill will discontinue present programs that encourage and reward environmental degradation.

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FARM FINANCE OUTLOOK

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The outlook for farm finances is one of guarded optimism. In late 1987 the agricultural economy is characterized by income recovery, a lower debt burden, and asset stabilization. Current returns to equity and assets are in the 3-5 percent range, higher than most years during the 1960's-70's. While cash income is projected to decline 6-10 percent in 1988, there is likely to be a continued consolidation of balance sheet gains. This assessment also requires a cautionary note. Persistent financial stress will continue in 1988, especially for highly leveraged grain farms with substantial interest and/or rent expense. There is also widespread concern regarding the financial health of a sector that is highly dependent upon Government supports. Nonetheless it is likely that careful cost management and the continuing alleviation of the farm debt crisis will permit agriculture to be more cost-competitive in 1988 than was the case in the early and mid-1980's.

Farm Income

Net farm income, an accrual-based measure of farm profits that includes inventory change and depreciation expense, is anticipated to achieve a level of \$40 - \$45 billion in 1988. This level is approximately 5 percent less than the 1987 record of \$45 billion, and 8 percent lower after adjustment for the decline in purchasing power caused by inflation. The significance of the 1986-87 improvement in net farm income can be gauged by comparison with the 1970's. In real terms (\$1982) net farm income has again achieved the \$35 billion level prevalent in the 1975-79 period.

After achieving a record level of \$57 billion in 1987, net cash income in 1988 will likely decline to the \$50 - \$55 billion range. In inflation-adjusted dollars, net cash income may be 7 percent less than in 1987, and in the same approximate range, \$42 - \$46 billion (\$1982) as occurred in 1985-86.

The cash and accrual (net farm) incomes achieved in the 1985-88 period are, by any standard, significantly higher than income in the early 1980's. These income gains occurred in spite of substantial deterioration in grain prices. In a broad sense, these mid-1980 income gains are due to: three years of strong livestock profits, the combination of declining costs and record level yields for corn and soybeans enterprises in the Midwest, extraordinary levels of Government supports to crop farmers under the 1985 farm legislation, and a \$60 billion decline in the debt burden of the agricultural sector.

Prices and Receipts

During 1985-87, farmers observed the prices of corn, wheat and soybeans decline sharply. These recent price declines can be viewed as the acceleration of a longer secular trend that began in the late 1970's. On the other hand, livestock prices increased sharply from mid-1985 to mid-1987. It is likely that both of these trends will have begun to reverse during late 1987 and 1988. Food grain prices are forecast to be 5-7 percent higher, feed grain prices from 8-12 percent higher, and livestock prices 4-6 percent lower in 1988.

Farm Sector Income

Year	Current Income			Deflated Income (\$1982) 1/		
	Net cash	Net Farm	Off-farm	Net cash	Net farm	Off-farm
	Billion dollars			Billion dollars		
1975-79	30.8	23.6	28.0	45.4	34.9	41.2
1980-84	36.2	22.2	36.4	36.9	22.6	37.6
1985-86	49.7	34.9	43.6	44.1	31	38.7
1987F	57	45	47	49	39	42
1988F	50-55	40-45	48-50	41-45	34-38	41-44

F=Forecast 1/ Deflated by the GNP implicit price deflator (1982=100).

Current and Constant Dollar Commodity Prices

Price/year:	Corn (bu)	: Wheat (bu)	: Soybeans (bu)	: Cotton (1b)	: Cattle (1b)	: Hogs (1b)
Dollars per unit						
Current:						
Avg. price, 1973-76	2.57	3.55	6.01	.51	.36	.41
Avg. price, 1983-86	2.62	3.20	6.04	.58	.55	.48
Estimated price, 1987 1/	1.55	2.50	4.89	.60	.61	.52
Ratio						
Ratio of average prices:						
1983-86/1973-76 (Constant dollars)	.52	.47	.52	.69	.79	.61
1987/1973-76 (Constant dollars)	.34	.39	.46	.67	.94	.72

1. Eleven month estimate (January-November).

These price trends suggest that the strong profit rebound in livestock enterprises since 1985 is about to be eclipsed by a more stable returns period in the livestock cycle, and by a period of moderately increasing returns in a recovering crop sector. Two key components of this livestock/crop cycle reversal are: higher crop prices that increase feed prices 4-7 percent, lowering profits of livestock producers; and, lower farm sector debt coupled with moderation in interest rates. Together these benefit the returns of crop producers with a capital structure dominated by land and machinery assets.

Prices Received and Paid by Farmers, 1984-88

Item	:	1984	1985	1986	1987F	1988F
<u>Percent change from previous year</u>						
Prices Received:						
Crops	:	8.6	-13.7	-12	-2	2
Livestock	:	3.5	-6.8	1	6	-5
All commodities	:	5.2	-9.9	-5	3	-3
Prices Paid:						
Production items	:	1.3	-0.1	-4	2	1
Commod. & services, interest, taxes, and wages	:	1.9	-1.2	-2	2	3
Farm origin inputs	:	0.0	-7.6	-4	7	-1
Nonfarm origin	:	5.6	1.2	-4	-2	3
Addendum:						
CPI-U	:	4.0	3.8	1.8	3.0	4
PPI-finished goods	:	1.7	1.2	-1.3	2.5	5

F=Forecast

Source of historical data: USDA, NASS and Labor Dept., BLS.

Farm Output, Input, and Productivity, 1984-88

Item	:	1984	1985	1986	1987F	1988F
<u>Percent change from previous year</u>						
Output:						
Crops	:	26.1	5.4	-7.7	-1.9	0
Livestock	:	-1.9	2.7	.9	0	2
Total	:	16.7	6.3	-7.6	-1	0-1
Input use	:	1.0	-4.3	5.6	-5	-1
Productivity	:	17.3	9.4	-3.3	4	2

F=Forecast

While increased poultry output offset declining beef output in 1987, higher hog, poultry and dairy production will result in a 2-percent increase in livestock output in 1988. However, total output is projected to increase from 0-1 percent in 1988, as crop production, assuming average weather conditions, remains flat. Total farm output in 1987 is the fifth highest on record in spite of large Government acreage reduction programs. Production in 1987 is 1-percent lower than in 1986 and 8-percent lower than the 1985 all-time high. Strong soybean yields and record-high corn and sorghum yields limited the production decline to 2 percent in 1987. An additional 1-percent decline in input use is expected in 1988 while production may rise 1 percent.

Cash receipts from the sale of crop commodities will increase \$2-\$4 billion under current price projections to a level of \$61-\$63 billion. This slight improvement will be led by a \$1 billion gain for wheat and rice (combined), and more than \$1 billion in gains for cotton and corn sales. A substantial decline in corn receipts, not fully offset by higher Government payments, resulted in lower returns in 1987 for many corn producers. The livestock sector is characterized by 2-4 percent declines for cattle, broilers, eggs and milk, and a large 10-15 percent decline in receipts for hogs following two years of \$.55-\$.65 per pound prices for pork producers. In addition to the long awaited improvement in crop receipts, a projected \$1 billion gain in overall sector receipts marks the first increase since 1985. However, 1988's cash receipts level of \$131-\$134 billion is only slightly higher than 1979, indicating the loss of inflation-adjusted purchasing power in the sector during the last 10 years.

Decline in farm expenses to end in 1988

After plummeting \$25 billion since 1984, total production expenses are projected to stabilize in the \$117-\$119 billion range in 1988. Stable expenses will largely be the net result of a 5 percent decline in interest expense a slight decline in fixed overhead expenses (depreciation and rent), and 3-4 percent increase in farm origin

Cash Receipts

	1985/86 average	:	1987F	:	1988F
Crops 1/	69.0		58		61-63
Food grains	7.5		5		6
Feed grains & hay	20.2		11		13
Oil crops	11.6		10		11
Fruit & vegetables	15.5		17		16
Other crops	14.2		15		16
Livestock	70.7		74		70-72
Meat animals	38.8		43		41
Poultry & eggs	12.0		12		11
Dairy products	18.0		18		17
Other livestock	1.9		2		2
Total	139.7		132		131-134

F=Forecast. 1/ Includes net CCC loans. Totals may not add due to rounding.

inputs (feed, seed, etc), manufactured inputs such as fertilizer and chemicals, and repair and labor expense. The \$19 billion decline in cash expense during 1984-87 was 25 percent less than the fall in total expense. Cash expenses, which do not include the effects of falling capital consumption, are now projected to rise \$2 billion in 1988 to the \$98-\$100 billion level.

This incremental increase in cash expense likely signals the end of a period of dramatically improving cost structure. Large additional declines in fuel, chemical, pesticide and interest expense are unlikely to occur in the next few years. It is also unlikely that further large reductions in acreage planted will occur. Should input prices and/or quantities gradually increase in 1988 and in subsequent years, the major source of income growth during the 1980's (i.e., cost control) will no longer be available.

Government supports remain critical to producers

Total Government direct payments, are at record-high levels in 1987 for wheat, rice, corn, barley, oats and cotton. These payments include deficiency, marketing certificates, and diversion payments (except for cotton). In addition to the \$13-\$14 billion payments for the above programs, more than \$3 billion in additional payments were made for reserve storage, dairy herd buyouts, conservation, disaster, wool and other programs.

In the second half of 1986 and the first half of 1987, the price of corn in parts of the Midwest declined to as low as \$1.10-\$1.20. These price levels compare with \$2.50-\$3.25 corn prices as recently as 1983-84. The financial impact of this 60 percent decline was cushioned by massive increases in Government CCC outlays and direct payments to farmers. For corn, wheat and cotton producers with sizable interest or rent expense obligations, Government supports became critical to maintaining a stable financial position. In promoting the continued economic viability of the non-stressed

Farm Production Expenses

Item	1985	:	1986	:	1987F	:	1988F
Percent change from a year earlier							
Farm origin items	-7.4		-5.2		3		3
Manufactured inputs	-3.2		-18.2		-8		4
Interest charges	-11.5		-9.5		-14		-5
Repairs, labor, machine hire	0.2		-1.4		3		3
Other items 1/	-7.0		-9.3		-5		-1
Total expenses	-6.3		-8.7		-4		0-2
Cash expenses	-5.8		-8.7		-3		1-3

F=Forecast. 1/ includes depreciation, taxes, net rent, and others.

farms, which account for 80-85 percent of all commercial size farms, Government supports effectively lessened land price declines throughout the sector. In other words, had Government supports not been available to stable farmers, albeit acreage reduction requirements and maximum payment limits per farm, the subsequent deterioration of their fiscal health would have led to further land price weakening in the sector. Thus, commensurate with their large size, Government supports had a major stabilizing impact in the heightened stress years of the early and mid-1980's.

Total Government direct payment and CCC outlays received by producers are likely to stabilize in 1988; however, the 1987-88 average of about \$18 billion is 18 percent less than the 1985-86 average of \$21.7 billion. In 1988 there is likely to be a \$2-\$3 billion increase in CCC net disbursements. The Government will stand to recover a major portion of the CCC buildup, because commodities are pledged as collateral to the CCC. Direct payments, which are largely not recoverable, are forecast to decline \$2-\$4 billion. The 1988 reversal of a 3-year trend of increasing direct payments is a second indication (in addition to the overall 1987-88 decline in outlays) that the role of Government supports in agriculture has begun to diminish.

Greater export, cost structure and finance gains have been achieved than most economists viewed to be likely to occur in 1986-87. A financial relationship that permits us to observe the progress associated with gains in net income is the ratio of interest expense to cash income before interest expense. In 1980-84, interest obligations required 37 percent of available cash income, by 1988 the interest burden is likely to require only 20 percent of available cash flow.

A fundamental weakness in farm income is shown by another financial relationship, Government direct payments divided by cash income before interest. This ratio depicts the importance of Government payments to farm income. This relationship increased from 4 percent in 1975-79 to 21 percent in 1987. Until the Government payments to income ratio declines substantially, recovery in the agricultural sector will be only partial. The presence of large Government supports to agriculture, in an epoch of large Government budget deficits, must be recognized as an indication that the competitiveness of U.S agriculture has not been fully achieved.

Strengthening Farm Finances

The financial shape of large numbers of farmers strengthened in 1987, and will continue to improve moderately in 1988. The most important signal in the financial turnaround process was sent by participants in the market for farm real estate. Farm investors have regained sufficient confidence to bid up land prices from 8-10 percent during 1987 in states such as Illinois, Iowa, Kansas, and Nebraska. Our estimate, which may prove conservative, is that farm real estate asset values will have risen \$15-\$25 billion nation-wide in 1987, and could rise an additional \$5-\$10 billion in 1988. This turnabout, from the average \$80 billion declines in real estate values during 1984-86, significantly improves returns to investment. Land value gains also strengthen the component of debt carrying capacity that is based upon the stability of real estate loan collateral.

The Balance Sheet: Financial Position Begins to Improve

The balance sheet provides a year-end "snapshot" of the farm sector's financial shape, the relationship of farm assets to debt. Financial health is likely to improve in 1988 due to trends in both farm assets values and debt.

Balance Sheet of the Farming Sector 1/

Year	Current dollars		:	Deflated dollars (\$1982) 2/		
	Assets	Liabilities		Assets	Liabilities	Equity
	Billion dollars			Billion dollars		
1975-79	691.8	116.8		1005.0	169.7	835.3
1980-84	959.7	192.8		973.1	195.5	777.6
1985-86	720.7	165.1		638.9	146.4	492.6
1987F	712	141		607	120	487
1988F	705-720	125-135		585-600	100-115	480-495

F=Forecast. 1/ Excludes operator households and CCC activity. 2/ Deflated by the GNP implicit price deflator, 1982

Asset Growth

Nonreal estate assets are projected to decline 2-3 percent in 1988 due entirely to a \$5 billion decline in the inventory of farm machinery and equipment. Increases in inventories of hogs and poultry will offset lower prices, permitting the value of livestock inventories to remain essentially stable. The value of crop inventories is also projected to be flat in 1988, as a 12-15 percent increase in the price of corn, and lesser increases for most other major crops are offset by lower ending stocks. One billion dollar increases in financial assets held by farmers in both 1987 and 1988, are in addition to large paydowns in farm debt.

Farm asset growth was primarily generated by a \$15-25 billion increase in real estate value in 1987, a trend that is likely to continue to a reduced extent in 1988. Considerable variation underlies the 3-5 percent growth in land values in 1987: sharp increases in the Corn Belt and Northern Plains, which in areas of states such as Iowa, Minnesota and Illinois may reach 10-20 percent for Class A farm land; declines in the 5 percent range in parts of the oil-depressed Southern Plains; substantial 5-10 percent increases in Mid and North Atlantic states that are experiencing urban growth pressure; and moderate gains in the 2-4 percent range in much of the Mountain States region and West Coast.

Stabilization of land values is viewed to be essential for farm financial progress of a longrun nature. The nearly \$280 billion decline in land values between 1981-86, and the 48-64 percent decline in 10 Corn Belt and Northern Plain states stretching from Ohio to Nebraska, transformed countless "healthy" farm balance sheets into the status of insolvency.

Land deflation made collateral supporting many farm loans, inadequate to protect the lender. Farms with positive cash flow suddenly were perceived as not credit worthy because of low or negative equity positions. While the return of rapid land value inflation is not foreseen, a stable or moderately strengthening land market in the remainder of the 1980's represents the single most critical indicator that the

agricultural economy has "turned the corner" of its financial crisis. The stabilization of the real estate asset base is an indicator that investors have renewed confidence in the longrun profitability of agriculture.

Federal Reserve Bank Surveys of Land Values

	1986			1987					
	3rd quarter	:	4th quarter	:	1st quarter	:	2nd quarter	:	3rd quarter
	Percent								
Chicago	-4.0		-1.4		.4		1.8		3.3
Dallas 1/	-4.5		-2.1		-1.9		-1.0		-2.3
Kansas City	-2.9		-4.1		.5		2.2		2.0
Richmond	.3		-2.3		.9		1.6		9.4
Minneapolis	-4.4		-4.7		2.7		1.7		-2.8

Percent change from previous quarter. 1/ Three-quarter moving average.

Returns to Assets and Equity

Year	Returns to assets				Returns to equity		
	Income	Real capital gains	Total		Income	Real capital gains	Total
	Percent				Percent		
1975-79	2.5	8.1	10.6		1.4	8.1	9.5
1980-84	2.0	-5.2	-3.2		-.1	-5.1	-5.2
1985-86	4.4	-10.4	-6.0		2.8	-10.4	-7.6
1987F	5.4	0.0	5.5		4.4	0.0	4.4
1988F	4.9	-3.0	1.9		3.6	-3.0	.6

F=Forecast. Excludes operator households. Totals may not add due to rounding. Returns to assets and returns to equity are calculated using the average of the current and previous year's assets and equity, respectively.

Reflecting land value stabilization, the total return to equity from income and real capital gains, became positive in 1987 for the first time since 1980. The 4.4 percent estimated return to equity in 1987 is close to the average 4.9 percent return during 1959-70. Whether this bellweather guide to financial performance falls to near zero or remains at the 2-5 percent level typical of most years in the slow-growth 1960's, will again depend upon producers' confidence in the stability (after inflation) of land investments. With regard to 1988, it is useful to keep in mind:

- o The USDA projection of 3-4 percent return to equity from current income in 1988 is higher than all but 3 years of the 1970-86 period.
- o The high total returns to equity ranging from 3-20 percent during 1971-79, were in large part due to enormous increases in land inflation rather than continued high current returns. In this respect a projected total return of 0-2 percent in 1988 is indicative of stable (real) prices for land. This is a steadying phase compared to double-digit positive total returns in the 1970's and a brief period of double-digit negative total returns in the 1980's.

Continuing Debt Decline

Nineteen eighty-eight will likely be the fourth consecutive year of large decreases in farm debt. The total debt reduction of \$60 billion in the 1984-88 period illustrates a phenomenal ability in the agricultural sector to adjust to current business conditions. The large debt reduction has come at great sacrifice on the part of producers and also on the part of lenders that have restructured and written-off debt. However, the \$6-7 billion annual savings in interest associated with debt reduction that has been completed since 1984 has become a critically important factor to continued income stabilization.

Real estate debt of \$75-\$78 billion in 1988 will be 25 percent lower than in 1984; nonreal estate debt of \$52-\$55 billion will be nearly 40 percent less. Producers have been particularly effective in lowering their credit needs for planting, applications of fertilizers and chemicals and harvesting. Advance payments for participation in Government programs and increased usage of CCC loans have facilitated the nonreal estate debt reduction. Lower input prices for fuel, chemicals and feed, reductions in planted acreages of commodity program crops, and an enormous decline in machinery investment have also reduced the need for operating and intermediate-term loans.

Federal Land Banks, Production Credit Associations, and Federal Intermediate Credit Banks have borne the brunt of the massive loan reduction since 1984, with loan portfolio declines of respectively 41, 58, and 81 percent. The Farm Credit System, which is comprised of these three lending institutions, will likely hold \$27-\$30 billion less farm debt in 1988 than in 1984 (end of year). Debt held by individuals, merchants and others will also experience a substantial decline of \$21-\$24 billion in 1984-88, a larger decline than the projected \$13-\$15 billion decrease for nonreal estate lending of commercial banks. Commercial banks are, however, making inroads into real-estate lending with a 42-45 percent increase during 1984-88. The recent passage of Federal legislation strengthening the finances of the Farm Credit System, and the reduction in Federal Land Bank average interest rates from 12 to 11 percent between 1986 and 1987, could begin to stabilize FLB lending levels by late 1988 or early 1989.

Should it result in increased interest rate and loan terms competition, a more broadly based distribution of the farm sector loan portfolio, may be an unheralded benefit of the 1980's farm debt reduction process.

In real terms (\$1982) equity has fallen 55 percent between 1979-80 and 1987. However, inflation adjusted farm equity is projected to rise \$15 billion in 1987 and then stabilize at the \$480-\$495 billion level (\$1982) in 1988. Again, the firming of the equity "bottom line" to the financial position of the sector is essential for longterm business recovery. Reflecting the new realignment between debt and assets, the closely monitored debt to asset ratio is projected at 18 percent in 1988. This also constitutes a remarkable recovery from the 22-23 percent levels of 1984-86. Corresponding to a lower debt burden, the ratio of income available to cover interest expense has increased from the 2.0-3.0 level of 1980-84, to a more robust 5.0 in 1987-88. In view of these improving trends, the stabilization of the farm economy's balance sheet is as impressive as income recovery since the early 1980's.

Farm Financial Stress: The Worst Is Over

Income stress in the early 1980's, coupled with a nearly \$280 billion loss in real estate (current dollars) in the mid 1980's, resulted in widespread farm financial stress. Statistics of farm foreclosure and voluntary exits due to financial difficulties are not readily available. However, farm numbers have declined by about 300,000 in the 1980's, and a substantial proportion of this decline was no doubt due to stress.

Several alternative measures of stress suggest that from 9-16 percent of commercial farms were experiencing some degree of financial stress at the end of 1986. These farms held from 20-35 percent of commercial farm debt. It is also apparent that recent financial progress has occurred, since both the percent of farms and farm debt in stress declined between 1984-86.

Share of Commercial Farms and Commercial Farm Debt
that is Financially Stressed 1/

Approach	Commercial farms			:	Commercial farm debt		
	1984	1985	1986		1984	1985	1986
	Percent						
Net cash household income/Solvency	19	17	16		42	37	35
Net cash farm income/Solvency	11	10	9		27	23	20
Net farm income/Solvency	NA	NA	13		NA	NA	30
Returns, equity, and solvency	17	14	12		33	26	21
Debt service and solvency	17	16	16		39	35	33

1/ Identified by alternative approaches.

The Midwest has experienced the most farms in stress due to the large number of commercial size farms in the Corn Belt and Plains states, and due to the large price declines in crops such as corn, soybeans, and wheat. Also land price declines were largest in size and percentage terms in the Midwest. In early 1987, it was evident that improved livestock returns, Government supports for food and feed grains, and cost-cutting management on the part of farmers had resulted in lower stress than a year earlier.

The percent of stressed commercial farms declined overall from 15-16 percent in early 1985 to 12-13 percent in early 1987, in the Pacific, Mountain, and Northern Plain states; in the Northeast states of New Jersey, New York and Pennsylvania, and in the Eastern Corn Belt states of Illinois, Indiana, Michigan and Ohio. More than one third of all stressed commercial size farms are in the Western Corn Belt states of Iowa, Minnesota, Wisconsin and Missouri. This 4 state region stabilized between early 1985 and 1987. There also was an evident shift of financial stress into the Southern Plains, Delta and Southeast in this period, where the incidence of stress increased from about 17 to 21 percent.

Gains in financial health will continue to be experienced in the Midwest in 1987 and early 1988. Solid profits in livestock enterprises and outstanding per acre yields of corn and soybeans in 1986-87 tended to partially compensate for declining crop prices. There are also excellent current prospects for income recovery among large numbers of farmers in most Southern states in 1987, due to improved rice and cotton yields, higher cattle profits and generally better growing and harvest conditions.

Potential Loan Losses for Selected State Groups

	Farms with potential loan losses		Incidence of stress 1/	
	1985	1987	1985	1987
Improvement				
Mountain States	7,800	5,900	16	14
CA, OR, WA	6,000	4,200	16	10
NJ, NY, PA	4,600	2,900	11	8
KS, NE, ND, SD	21,100	15,400	19	16
IL, IN, MI, OH	17,400	12,500	16	13
Stabilization				
IA, MN, WI, MO	37,000	36,000	21	22
Deterioration				
AR, LA, OK, TX	12,600	14,400	16	22
AL, GA, MS, NC	8,000	7,600	18	21
Above regions	108,200	93,600	18.4	17
United States	122,500	104,100	17.0	16

1/ Share of farms with potential loan losses.

The stabilization process also is visible in an overview of farm loan difficulties. Using a debt service model that provides a lender-oriented perspective of financial stress, analysis suggests that by the end of 1987, 75-85 percent of total 1980's loan losses will have been worked through by lenders. Maximum losses during 1985-89 will likely range between \$15 to \$19 billion, about 10 percent of farm debt outstanding at the beginning of the decade (excluding CCC loans).

While future changes in prices remain difficult to project, a broad process of financial stabilization and recovery is clearly in evidence in 1987 and is likely to continue in early 1988. There are notable weaknesses yet visible in the financial fabric of agriculture, especially in export based commodities such as corn, soybeans and wheat. However, institutional changes embodied in 1985 farm legislation and the 1986 Tax Reform Act are likely to result in a stronger agricultural production sector in the future: a sector that is increasingly competitive in world grain markets and one in which cost structure and investment plans are increasingly based on market signals, rather than distorted price or tax benefit signals.



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THE FARM CREDIT SYSTEM: FUTURE PERSPECTIVES

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Aside from the economic conditions which prevail over the next few years, the future of the Farm Credit System (FCS) will be determined by three factors: (1) the financial assistance legislation currently before Congress, (2) changes in the management of the System, and (3) whether the secondary market becomes a viable entity.

Before attempting to assess the System's future, I want to preface my remarks with two fairly significant assumptions. First, I am assuming that a financial assistance package will be passed which encompasses provisions contained in H.R. 3030 and S.1665. Second, I am also assuming that land and commodity prices are projected to generally stabilize over the next five years. If these two assumptions are incorrect, the outlook could change substantially.

From my perspective, the issue at the moment is not whether the System will survive, but rather what impact the various provisions of the proposed legislation will have on its performance and competitiveness. Unfortunately, at this point the legislation is not yet in its final form. Therefore, my remarks are necessarily based somewhat on speculation as to what the final provisions will be.

One of my major concerns is that while Congress is enacting legislation to ensure the survival of the Farm Credit System in order to protect the System's borrowers and investors, it is also setting up a significant number of roadblocks to the System's ability to be competitive. Although concern for the System's troubled borrowers is commendable, it seems unlikely that the most creditworthy borrowers are going to remain with the System if they have to pay the higher costs associated with social program responsibility.

Although the effect will vary between districts and parts of the System, depending on their current financial condition, the quality of their loan portfolio, and the quality of boards and management, Congress appears to be creating a situation where the Farm Credit System could survive only to become the lender of next-to-last resort. This is particularly true as a lender for the emerging commercial farm sector. Yet, the ability of the System to service this market segment is critical to its long term success because 90 percent of all agricultural products are currently produced by only 30 percent of the farms. Moreover, the largest 5 percent account for about 50 percent of

agricultural production. However, every dark cloud has a silver lining. By setting up a situation that will allow institutions to fail or be merged into stronger institutions, the System may be forced to act more like a profit-oriented business and less like a quasi-government agency.

If the stronger parts of the System can overcome some of the more restrictive provisions of the legislation, capitalize on the provisions which allow for reorganization, and take an aggressive approach to overcoming past management problems, they could emerge as a viable competitive force. It won't be easy. The Farm Credit System is extremely tradition bound, and vested interests afraid of losing control are well entrenched. But, if internal politics can be overcome, the opportunity is there.

I am going to begin by looking at some of the potential impacts of the legislation, then address some of the management problems, and conclude by discussing some changes needed in lending policies. Since the legislation is not complete, I will undoubtedly include some provisions that won't be part of the final package. I suspect, however, that there will be more disagreement with my opinions than with my assumptions regarding the elements of the final legislation.

Financial Assistance

It is likely that the assistance will be funded by the Senate's plan for bond sales through a financial assistance board. This would involve the issuance of 15-year bonds with the federal government paying all of the interest for the first five years, sharing the interest cost with the System for the second five years, and requiring the System to pick up all the interest for the last five years. The total amount of the assistance package will likely be \$4 billion, with \$2-2.8 billion being advanced during 1988.

The amount is down from the \$6 billion originally requested by the System because land values appear to have begun stabilizing in several regions of the country, and in some districts, allowances for loan losses are now estimated to be more than the losses that will be incurred.

I think there is also another reason for the need for less direct assistance to FCS which will result in the actual cost of farm credit assistance borne by the public being considerably higher over the next five years. These indirect costs will occur through shifting part of the financial burden to Farmers Home Administration (FmHA). By including FmHA in the mediation and loan restructuring requirements, FmHA will finally be forced to recognize the significant losses that already exist in its loan portfolio. Moreover, even if the borrowers whose loans are restructured eventually fail, their assets will not be immediately dumped on the market. Thus, they will not create the downward pressure on collateral values which would have increased the Farm Credit System's loan losses and the amount of assistance it would have otherwise needed.

A second source of indirect costs lies in a policy change that took place about three years ago when FmHA's limited resource loan program provisions were extended to farmers who could not otherwise cash flow. Because limited resource loan rates are subsidized well below the government's cost of funds, increasing the number of farmers eligible for the subsidy increases the cost to the public.

Costs are also continuing to occur not just due to the direct interest subsidies, but also

because of the interest that has not and never will be paid on many nonperforming loans.

This past summer, Congress further increased the cost which will eventually result from principal and interest write-offs by reducing FmHA's cash flow requirement to the point where a borrower needs only to show the ability to repay a new loan from the crop or operation it will finance and eliminated the requirement that the farmer be able to show the ability to cash flow all debt. Finally, it appears that FmHA's interest rate buy-down program will be extended. To the extent the Farm Credit System begins working more with the guaranteed loan program and using this provision as a part of its loan restructuring, part of the cost will again be passed on to taxpayers through FmHA. While the actions mentioned reduce foreclosures, support asset values and reduce the capital assistance needed by FCS, they also add significant costs outside the assistance package.

System Restructuring

Two areas of restructuring seem most likely to occur. The first is that the System will be allowed to merge unlike entities. As a minimum, this will mean Federal Land Banks with Federal Intermediate Credit Banks, and Federal Land Bank Associations (FLBA) with Production Credit Associations (PCA). These separate units deal with loans to farmers, and it makes little sense to have separate corporate entities who are in some cases competing with each other. The need has been particularly apparent in organizations operating under joint management. Mergers would reduce unnecessary duplication and consolidate capital. At the association level, merging lending functions should not only help with marketing and account servicing but also with loan structuring and control.

The second is the merger of the Banks for Cooperatives (BCs) into one national system with regional service centers. Although this will probably not be mandated, I believe that most of the BCs will elect to merge on a voluntary basis. While I am not sure that the savings will be as great as suggested by the Hopkin study (47 basis points), particularly on the funding side, I do feel the savings will be significant. The BC should benefit from reduced overhead, expanded rural utility financing, better risk pooling, and improved capabilities to handle large complex loans and international financing.

In addition to the above, the need for a consolidated BC System recognizes that the number of farmer cooperatives is shrinking rapidly. Their number decreased from nearly 9,000 in 1960 to just over 6,000 in 1980 and is projected to be down to 3,400 by the year 2000. It is also significant to note that the BCs share of debt supplied to the 100 largest cooperatives shrank from 62 percent in 1970 to 48 percent in 1985. A related factor is that even though the BCs' loans outstanding have not fallen as rapidly as the other parts of the System, their average operating costs per \$100 of loans increased from 32 cents in 1980 to 92 cents in 1986. Unless the BCs do something to become more competitive for the business of the larger regional cooperatives and the financially viable smaller cooperatives in terms of both service and pricing, they will become lenders of last resort.

Another and more controversial area of restructuring involves the merger of districts. It is my opinion that district mergers will not be mandated by the final legislation. While there are some obvious economic advantages, there are also disadvantages and a great deal of political resistance from within the System.

A major factor in favor of district mergers is that the loan volume of the System will likely fall to half what it was at its peak before the situation bottoms out. There is simply too much overhead in the System as it is now structured. Improved communication technology, fewer associations, and the shifting of examination responsibilities to FCA also reduce the need for the current number of district banks. If it is successful, the secondary market for farm real estate loans will also assure that the System will not regain the market share it once held. Another factor that would have favored mandated restructuring is the fact that left voluntary, vested interests within the System will result in mergers taking longer to occur and involving more politics than good business sense would otherwise dictate.

At the same time there are several obvious disadvantages. The first is that reorganization tends to be disruptive both to employees and borrowers each time it occurs. There is a learning curve and an acceptance period involved which no amount of economic logic can eliminate. Moreover, it would happen at the same time the System is struggling with credit problems and would be further compounded by mandatory loan restructuring and mediation requirements.

Whatever happens at the district and bank levels, I think we will continue to see a downsizing in the field. More functions such as accounting and data processing need to be centralized. A lot of bricks and mortar need to be sold. There is simply not the need or economic justification to maintain as many field offices as now exist, particularly as PCAs and FLBAs are consolidated. There is also going to be a continuing merger of associations into larger units and a movement toward maintaining offices only in agricultural trade centers.

Borrower Rights

On the positive side, a borrower deserves to be specifically told the reasons why he was refused additional credit or why his restructuring request was turned down. Because credit is to a degree subjective and because personalities are involved, the right to a fair hearing and review of differences by an objective body is also reasonable. Yet, Congress seems intent on carrying borrowers' rights to an extreme, creating additional bureaucracy and adding tremendous potential costs to the System, and thus to its performing borrowers in the form of higher interest rates to cover the additional costs. This will further aggravate the System's problem of retaining and attracting the most creditworthy borrowers.

Mandatory Loan Restructuring

It sounds simple to say that a farmer's debt must be restructured if the cost of restructuring is less than the loss that would be sustained through foreclosure. But, since foreclosure is a current event, the potential loss can be estimated with a reasonable degree of certainty. Restructuring, which usually involves the write down or forgiveness of principal or interest, is fraught with uncertainty, particularly where a borrower with weak management is involved. The future contains the risk of additional loan losses resulting from continuing operating losses, deterioration in collateral values, and the possibility of bankruptcy or legal costs of foreclosure at a later date. The requirement is laudable, but the lender needs to be allowed to use reasonable judgment. This latitude is not clear in the legislation or in terms of how the mediators or courts will interpret the legislation. Too strictly interpreted, this

provision could saddle the System with excessive costs and subvert the stated purpose of enabling the System to hold down interest rates.

Prohibition on Additional Collateral

Another provision in the pending legislation would prohibit FCS from requiring more collateral for a loan or demanding payments on principal faster than originally scheduled so long as payments are current. While this will provide borrowers with added protection, it will also increase the System's loss exposure. This prohibition will be less of a problem if asset values recover, but it will increase losses if asset markets decline or if the borrower continues to experience operating losses.

Homestead Protection

Another section of the legislation would require Farm Credit System lenders and FmHA to let a foreclosed farm family retain occupancy of their home and up to 10 acres of land at a reasonable rental rate. The same provision would also allow the former owner the first chance to buy back or lease the foreclosed homestead for up to 10 years. While this will aid displaced farmers in maintaining adequate housing, it will also reduce the market value and the recovery on acquired property.

Differential Loan Pricing

Another provision under consideration involves restrictions on charging differential interest rates. If this provision is included in the final legislation it will be a major factor in determining whether the Farm Credit System will be able to serve the emerging commercial farming sector or whether it will end up becoming the lender of next-to-last resort. Unless the System can competitively price loans to borrowers who qualify for preferred rates with other lenders based on lower risks and servicing costs, it will be priced out of the market for the most creditworthy borrowers. This will, in turn, cause higher rates to remaining borrowers. The issue of equity versus equality has long been a problem for most cooperatives, and the longer a cooperative retains the obsolete concept of uniform pricing, the more the market will reward it with fewer of the larger and stronger customers.

What some members of Congress and borrowers paying higher differential rates do not seem to understand is that by lowering the operating expense rate, increasing profits and lowering overall portfolio risks, the rate charged to weaker borrowers will be lower than if the preferred customers are driven off. This will be even more true if competitors with access to the secondary market do not have to live with the same restrictions in addition to not having the accumulated losses which require the rebuilding of capital.

Secondary Market

The proposed secondary market for farm real estate loans would give non-System lenders access to the same cost of funds and maturities as the Farm Credit System. If it succeeds, this market will benefit borrowers by increasing competition and the number of potential lenders, but it will also assure that the Federal Land Bank will not regain the market share it once enjoyed. The extent to which it results in other lenders draining off the System's better borrowers will depend largely on how fast

the market becomes operational. It will likely take most of the System about three years to work through its most serious loan and organizational restructuring problems. Prior to that time, the districts with a significant number of problem loans will be at a competitive disadvantage in terms of the rates and quality of service they can offer.

Management Challenges

It needs to be recognized that the Farm Credit districts which have experienced the greatest loan losses have not necessarily been more poorly managed than some of the districts which are stronger financially. Most, although not all, of the differences in financial condition can be tied to what has happened to land values. Where land values have held up, losses have been less severe. The problems that relate specifically to management can be observed to varying degrees in all of the districts. Many are a function of the System's cooperative structure, while others are problems that plague management in almost any industry. How successful the System is in overcoming these problems will, in large part, determine its long term competitiveness. While the observations I am going to make tend to be critical in nature, I want to make it clear that many of the weaknesses characterizing the Farm Credit System are also true of other agricultural lenders. I have listed below those issues that I feel contributed most strongly to the current situation and which need to be changed if the System is going to be successful:

- * Performance evaluation and reward systems for both organizations and employees which are either counterproductive or inadequate, e.g. telling them to do one thing but rewarding them for another.
- * Strong efforts to preserve traditional delivery systems and organizational structures.
- * Too many layers of administration and ownership representation, which tended to reduce innovation and response time.
- * More emphasis on loan quality classification than on the quality of credit administration.
- * Collateral rather than repayment-based lending.
- * A lack of monitoring borrowers' financial position and a lack of requirements for the maintenance of minimum collateral margins after loans were made as long as payments remained current. Violates every rule of good term lending.
- * A volume orientation to marketing without the development of individual account strategies or an evaluation of overall portfolio risks.
- * A lack of adequate and accurate financial information on borrowers.
- * Lack of professional career paths to reward top PCA and FLBA loan officers, many of whom should have remained in lending rather than feeling forced to move out of the System or into management simply for

economic reasons.

- * Management selection based on technical ability rather than management ability.
- * A lack of balance between the key performance areas of the business. Ties back to performance evaluation and reward system deficiencies.
- * Mismanagement of interest rate risk. Using average rather than marginal pricing of loans. See the discussion of loan pricing.
- * A short-run view by management and boards of directors attempting to hold interest rates as low as possible rather than emphasizing competitive pricing and longer-run capitalization policies.
- * More reactive than proactive supervision of associations, primarily due to the politics of relationships between the banks and local associations.
- * A tendency for too many local and district boards to become entrenched good old boy networks rather than professional boards of directors.
- * Response to change too slow because policy changes determined more by political consensus than by prudent businesslike action. Largely a function of System's cooperative structure.
- * Lack of open and effective communication both within organizations and between the System and its owner/borrowers, which created distrust and increased the level of uncertainty.
- * The inability or unwillingness to take advantage of many potential economies of scale through either mergers or cooperative efforts.
- * Lack of adequate, consistent, and efficient management information systems and controls.
- * An unwillingness to take advantage of one of the System's current biggest competitive advantages - the ability to fix-rate match-fund long term loans.
- * An unwillingness to charge interest rates reflecting differential risks and loan servicing costs in order to hold and attract the better borrowers.
- * Inadequate management development programs. The System has nothing comparable to the graduate banking schools.

Loan Pricing

Another change that needs to occur is a shift to marginal pricing of loans and more fixed-rate match-funding, particularly on longer term loans. In part, this will likely happen for competitive reasons with the creation of the secondary market for farm

real estate loans. But, it will also occur as the System attempts to do a better job of managing its interest rate risks.

In general, the System has used average cost pricing in setting its loan rates. The result has been a lag in the upward adjustment of loan rates when market interest rates are rising and a similar downward lag when market rates are falling. This pricing policy has dramatically impacted the System's competitive position. For the past few years it has resulted in the flight of many of the System's better borrowers seeking cheaper rates from other creditors.

Another problem with average cost pricing is that like collateral lending it tends to be procyclical. Loan rates which are too low during market upswings encourage excessive borrowing. When they are too high during market downswings, they increase borrowers' repayment problems.

The System has to do a better job of asset/liability management in order to survive and be consistently competitive. Interest expense on its debt still accounts for over 90 percent of the System's total expenditures. While the System recorded losses of \$4.6 billion in 1985 and 1986 due to increases in its allowances for loan losses, the General Accounting Office estimated that its interest expenses for the same period could have been reduced by \$3.4 billion if the System had more closely matched the frequency with which its debt and loans were repriced.

Changing Role for the Farm Credit Administration

FCA's role has evolved from serving as the System's advocate, to meddling in its management decisions, to serving as its independent regulator. For years FCA suffered from the same internal political problems in regulating the banks as the banks did in supervising the associations.

But once the current legislation passes, I think we will begin to see FCA take a much more forceful role in exercising its regulatory powers and responsibilities. The most important of these are the authority to issue capital adequacy requirements, the responsibility to examine all System institutions at least once each year, and the authority to take specific enforcement actions against System institutions and individuals.

Although there will always be problems between the System and FCA regarding overregulation, the change was needed. It will cut out some of the unnecessary duplication and inefficiencies that existed with multiple levels of authority and will result in more uniform and consistent management policies, credit administration, and accounting procedures throughout the System.

Changing the Basis for Lending Decisions

In addition to improving credit administration, the System needs to continue to place a greater amount of emphasis on repayment ability and risk analysis. The changes that have occurred over the past three years have been significant, but even with all the talk about cash flow requirements, the analysis of repayment capacity is still in its infant stages. While many districts have made major strides in improving their written loan policies, there is still a significant gap between policy and practice.

Until recently, the System, like many agricultural lenders, based loan decisions primarily on knowledge of the borrower, past repayment record, financial position, and adequacy of collateral margins. While these are still necessary considerations, they are not and never should have been sufficient.

Balance sheet or collateral-based lending has two major weaknesses: (1) it considers only the protection of the lender; that is, it doesn't address whether the loan will benefit the borrower, and (2) it is procyclical. Except for self-liquidating operating loans, collateral is generally relied upon for repayment only in event of default. Thus, the underlying consideration has been the expected recovery value of the collateral at the due date of the note or at the date of the next scheduled payment.

There has been a tendency for lending to be more liberal, resulting in excessive borrowing when asset values are appreciating, and to be excessively conservative when asset values are declining. This practice has led to large numbers of borrower failures and loan losses whenever asset values have taken a sharp downturn.

Basing loan decisions too heavily on collateral can exacerbate problems by creating a domino effect when foreclosures force more assets on the market, which result in lower asset values, which trigger more failures. Thus, lending needs to be based on repayment ability, with collateral being viewed in its proper role of providing insurance and control, not as the justification for lending or borrowing.

More Than Cash Flow Analysis Needed

The problem is that most lenders are still only going half way in their analysis of repayment ability. They are limiting themselves to analyzing annual cash flow projections and historical cash basis income. While cash flow is an important element of repayment ability, on an annual basis it is strictly a short-run analysis. An operation can be going broke and still generating a positive cash flow by reamortizing debts, selling off assets (including inventories) and not replacing capital assets as they wear out (i.e., living off of depreciation). Moreover, because cash flow projections are based on expected values, the actual outcome is subject to significant variability. Not enough effort has normally gone into evaluating the impact of alternative possible outcomes. Even in those cases where an attempt is made, it usually involves looking at something standard like a 10 percent decrease in revenues. This is a first step, but it isn't specific to the performance history or risk inherent in an individual business. It over penalizes some borrowers and understates the risk in lending to others.

The neglected half of repayment capacity has been the evaluation of historical and projected profitability on an accrual basis. Numerous studies have demonstrated that cash basis income accounting can lead to lags of as much as two years in recognizing developing profitability problems. The reverse is also true in that cash basis accounting delays recognition of profits during growth periods when the problem may be more liquidity than profitability.

In any case, without sufficient inheritances, nonfarm income, and/or asset appreciation to offset losses, in the long-run a farmer has to be profitable to survive. This does not mean that occasional or periodic losses cannot be tolerated, but income trends need to be a major consideration in any sound borrowing program or lending

program that is intended to be an ongoing relationship.

Another problem has been the lack of consistently prepared information based on something at least roughly approximating generally accepted accounting principles. In too many cases, farm credit analysis is based on data which can be fairly accurately described by the phrase "garbage in - garbage out." I have always been amazed at how many farm lenders do not get balance sheets for the beginning and end of the period for which income is measured, then end up going through a series of numerical gymnastics in an attempt to reconcile changes in net worth. While it makes sense to get a current balance sheet at the time of the loan application, nothing prevents requiring the farmer to also provide one as of the end of the accounting period. Other commercial businesses have to and so should commercial farmers.

Other changes that are needed include the development of standards for evaluating key financial position and performance indicators for different types of farms. To the extent rules of thumb or credit scoring models now exist, they are usually generic in nature and the fact is that one set of standards is no more applicable to comparing a dairy operation and a grain farm than it would be for comparing a jewelry store and a manufacturing firm. While solvency ratios may tend to be somewhat standardized, profitability, liquidity, and efficiency standards are not. At some point in the near future, the System needs to develop standards for different types of farms similar to those prepared by Robert Morris Associates and others for non-farm businesses. As of right now, it has a long way to go in terms of getting the information needed to analyze the performance of different enterprises both within and between firms.

The Need for Market Segmentation

The trend toward a bimodal agriculture composed of a large number of part-time farming operations and a much smaller number of large scale commercial farms is almost certain to continue. In order to be competitive, the System's lending policies are going to have to change to service these two distinctly different markets.

On the one hand, farms relying primarily on off-farm income for repayment ability need to be handled primarily as consumer loans. These loans can be subject to fairly standardized rules based on percent of income devoted to debt servicing, overall debt-to-asset ratios, and specific collateral margin requirements. The large scale commercial farms, however, need to be treated like commercial business loans. They need to be subject to more information requirements and to more analysis of the impact of longer-run economic and enterprise outlook on repayment ability, particularly for term loans. Risk management needs to be more important, and more controls and performance monitoring need to be required after loans are made. The management of larger farms needs to be encouraged to develop more sophisticated business plans and management information systems which track total farm and specific enterprise performance. One form of encouragement would be to differentiate loan service fees based on the adequacy and quality of information provided.

Lending will also become more complex because of the increased emphasis on a better balance between equity and debt funding. More of the large farms are going to be vertically integrated, involve multiple ownership, and be more heavily involved in the leasing of capital assets. Loan analysis will require more time in evaluating contractual arrangements between entities and financial statement consolidations involving

borrowers with ownership interests in a variety of related and unrelated businesses.

Concluding Remarks

In summary, I think that if the financial assistance legislation before Congress passes the Farm Credit System will survive in the foreseeable future; but, I have some strong reservations about its long term viability and its competitiveness in the market for the larger and stronger commercial farm borrowers. I also think that the System, excluding the Banks for Cooperatives, will end up with a significantly smaller share of the market. My assessment is based on four primary factors:

1. It seems unlikely that the most creditworthy borrowers are going to be willing to remain with the System if they have to pay the higher costs associated with social program responsibility. This assumes, of course, that Congress doesn't plan on providing ongoing subsidies to make up the difference in operating costs.
2. As with Chapter 12 and other borrower protection legislation, excessive borrowers' rights regulations will encourage the System to avoid lending to marginal and higher risk borrowers.
3. If the secondary market for farm real estate loans is successful, it will allow other creditors to be more competitive.
4. The System's cooperative structure may make it difficult to overcome many of its major management problems.

On the otherhand, I think that if the Banks for Cooperatives can separate themselves from the other parts of the System and merge into a strong national organization, they could become more competitive. For one thing, the legislation doesn't handcuff the BCs as much as it does the rest of the System. In the longer run, one of their biggest problems may be the growth potential and viability of their market.

Citations

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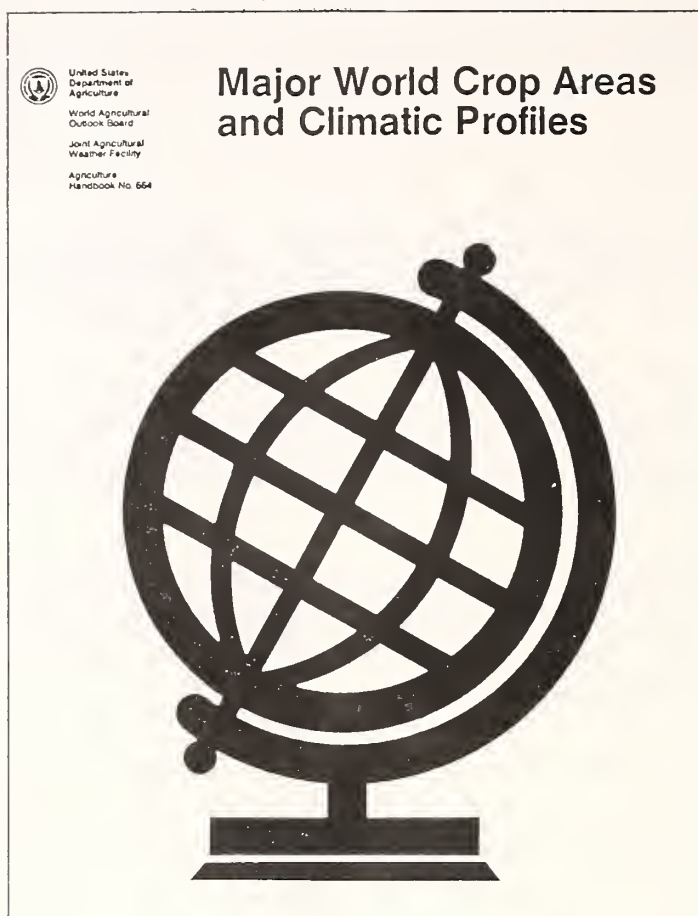
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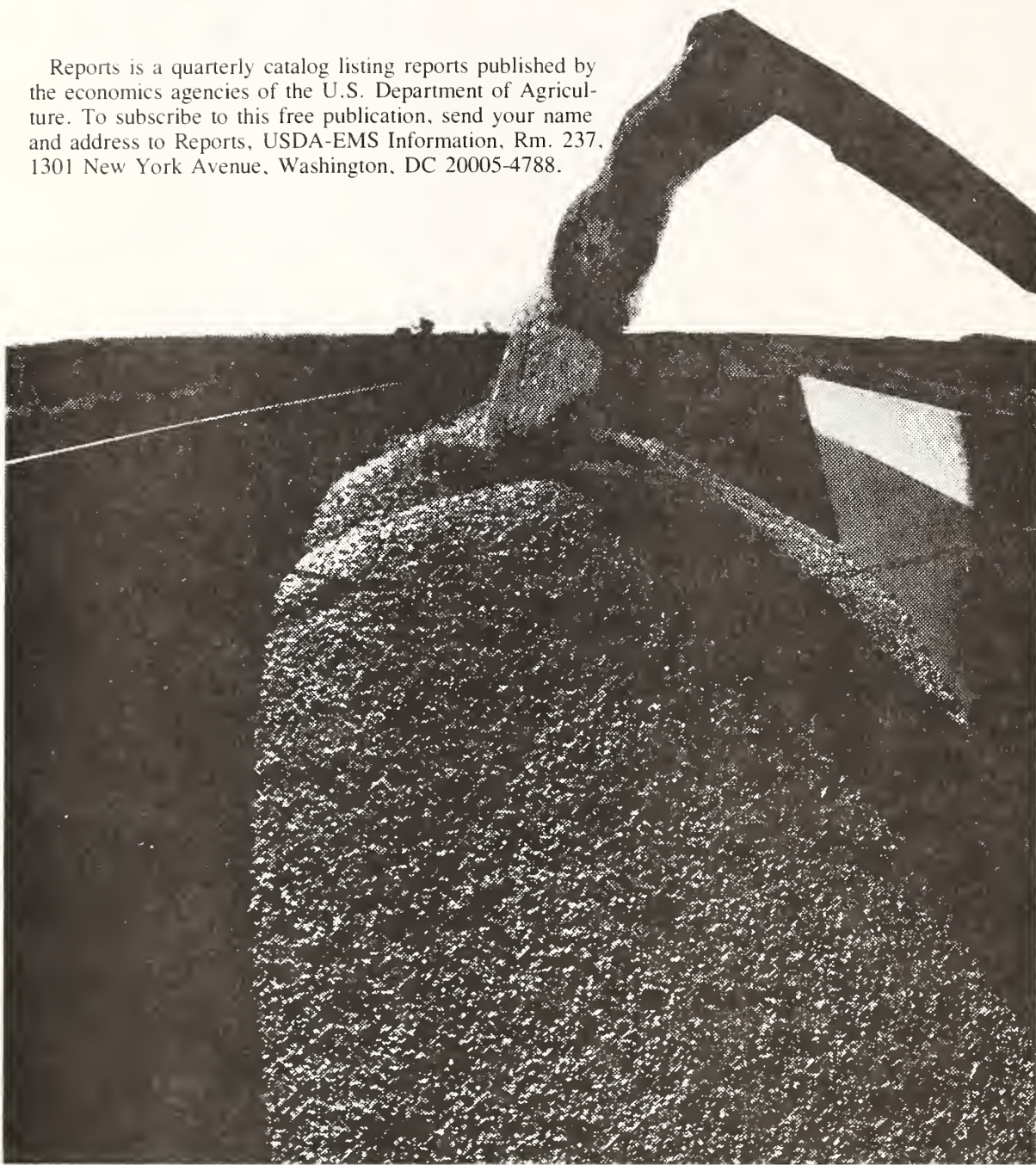
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